



ENGLISH  
EDITION



Vol. 029 #01/2108

029

# HISPA BRICK MAGAZINE®





## Redactores / Editor board / Uredništvo

Lluís Gibert (Iluisgib)  
Jetro de Château (Jetro)  
Antonio Bellón (Legotron)  
José M. Ruiz (Satanspoet)

## Equipo HispaBrick Magazine® / HispaBrick Magazine Team / Tim HispaBrick Magazinea

Adrian Barbour (BrickMonkey)  
Jesus Delgado (Arqu medes)  
Oton Ribic

## En este número colaboran / Authors of this issue / Autori ovog broja

Alexander Allekseev  
Benjamin Heining (The Driving Dutchman)  
Björn Daniel Weissberg  
car\_mp  
Chris Beckett (Becherman)  
Donát Rááb  
Eduard Petrac  
Iva Pavlic  
Janos Roemer  
Jasna Miklin  
Jens Fischer (Kolonialbeamter)  
Jody Padulano  
Juhász Péter (YooHa9)  
lego Pilot  
Lionel Gevaert  
Ludo Soete  
Luigi Priori  
Martin Redfern  
Peter Blackert (lego911)  
Richard Jones  
Seshan Brothers  
Sigpro  
Stephan Matthies  
Sven Franic  
Tamás Kovács (bigboy99899)



# 029

## Nuestro agradecimiento a / Thanks to / Hvala

LEGO® System A/S  
Jan Beyer  
Kim E. Thomsen

Puedes contactarnos / You can contact us at / Možete nas kontaktirati ovdje  
[info@hispabrickmagazine.com](mailto:info@hispabrickmagazine.com)

### Información legal

Los artículos y fotos en esta obra son propiedad de sus respectivos autores. Usted es libre de copiar, distribuir y comunicar públicamente la obra bajo las condiciones siguientes:

- Reconocimiento: usted tiene que atribuir la autoría de esta obra a "HispaBrick Magazine® y otros autores" (y con el siguiente link [www.hispabrickmagazine.com](http://www.hispabrickmagazine.com) en caso de referencia electrónica).
- Sin obras derivadas: no se puede alterar, transformar o generar una obra derivada a partir de esta obra.
- Al reutilizar o distribuir la obra, tiene que dejar bien claro los términos de la licencia de esta obra.
- Alguna de estas condiciones puede no aplicarse si se obtiene el permiso de los titulares de los derechos de autor.

- Nada en esta licencia menoscaba o restringe los derechos morales de los autores.  
LEGO®, DUPLO®, MINDSTORMS®, EXO-FORCE®, BIONICLE® y el logotipo LEGO® son marcas registradas de The LEGO® Group. Copyright 2017, el cual no patrocina, autoriza o aprueba esta publicación.

Todos los artículos con marca de fábrica pertenecen a sus respectivos propietarios y poseedores de sus licencias.

### Legal information

The articles and photos are property of their respective authors. You are free to share to copy, distribute, display, and perform the work under the following conditions:

- Attribution: you must attribute this work to "HispaBrick Magazine® and other authors" (with link [www.hispabrickmagazine.com](http://www.hispabrickmagazine.com) in case of electronic reference).

- No Derivative Works: you may not alter, transform, or build upon this work.
  - For any reuse or distribution, you must make clear to others the license terms of this work.
  - Any of the above conditions can be waived if you get permission from the copyright holders.
  - Nothing in this license impairs or restricts the author's moral rights.
- LEGO®, DUPLO®, MINDSTORMS®, EXO-FORCE®, BIONICLE® and the LEGO® logo are registered trademarks of The LEGO® Group, copyright 2017, which does not sponsor, authorize, or endorse this publication in any manner.

All trademarks in this publication are property of their respective owner

### Pravne informacije

Članci i fotografije su vlasništvo njihovih autora. Dozvoljeno je kopirati, distribuirati, prikazivati i izvoditi ove radove pod sljedećim uvjetima:

- Autorstvo: morate naglasiti kako je ovo djelo "HispaBrick Magazinea® i drugih autora" (s linkom na [www.hispabrickmagazine.com](http://www.hispabrickmagazine.com) u slučaju elektroničke reference).
  - Nema izvedenih djela: ne smijete promijeniti, transformirati ili raditi na temelju sadržaja HispaBrick Magazinea.
  - Za bilo kakvo ponovno korištenje ili distribuciju, morate naglasiti uvjete korištenja.
  - Može se odstupiti od bilo kojeg od navedenih uvjeta ako za to dobijete dozvolu vlasnika autorskih prava.
  - Ništa u ovoj licenci ne smanjuje niti ograničava moralna prava autora.
- LEGO®, DUPLO®, MINDSTORMS®, EXO-FORCE®, BIONICLE® i LEGO® logo su registrirani žigovi LEGO® Groupa, copyright 2017, koja ne sponzorira, odobrava ili podržava ovaj medij ni na koji način.

Svi registrirani žigovi (trademark) u ovom mediju su vlasništvo njihovih posjednika



Portada por / Cover by / Naslovnicu izradio

*Tamás Kovács (bigboy99899)*

# In this issue of HispaBrick Magazine®

- 5 Editorial
- 6 S90: History of a LEGO® Submarine
- 10 Uses of Brick Separator
- 14 Writing a LEGO® Book - The LEGO® Zoo
- 18 LEGO® GySEV/ROeEE Siemens Vectron Locomotive
- 22 Working with MILS modules
- 25 Let's take some pictures of LEGO®
- 29 Sand Green vs Pearl Gold Hotrods
- 31 Interview: LEGO® Friends
- 37 Interview: BriXtar
- 40 'Traffic Light' with the Creative Toolbox

## KOCKICE Corner

- 44 Bricktastic
- 47 BRICK QUIZ STRIKES BACK
- 50 Bodylicious!
- 53 LEGO® Architecture
- 57 Take Control of your MINDSTORMS™ bricks (2)
- 59 Reversing the creative process
- 61 QUIZ ANSWERS
- 63 HispaBrick Magazine® Event 2017
- 72 LEGO® House Pre-opening
- 77 Mattoncini in Castello - Desenzano di Garda
- 84 Review: 10260 - Downtown Diner
- 88 Review: 41314 - Stephanie's House
- 91 Review: 70922 - The Joker™ Manor
- 98 Review: 70618 - Destiny's Bounty
- 102 Benny's Corner
- 103 TOP MOC - LEGO® Digital
- 108 Desmontados by Arqu medes
- 109 How to collaborate with us
- 109 Our collaborators on the Internet



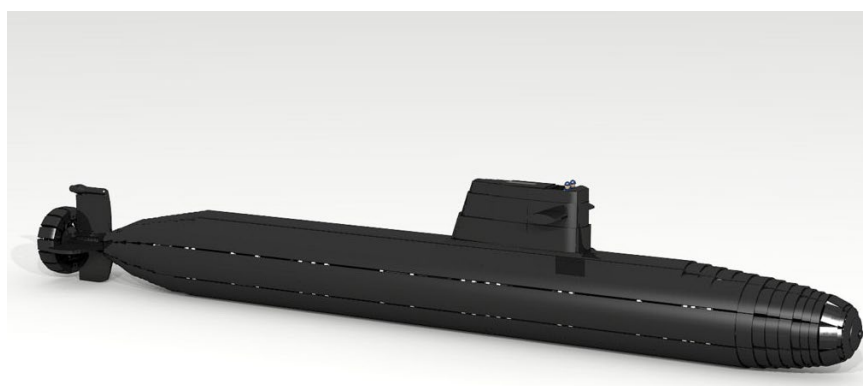
10



31



72



6



# Editorial

*Antonio Bellón (Legotron)*



First of all, the HispaBrick Magazine team hopes you had a great holiday season and wishes you a happy New Year.

Here we are again with a new issue of our magazine, HispaBrick Magazine® 029!

Aside from the usual sections – including interviews, reports, reviews, TopMoc, Desmontados, etc. – in this issue we have included some articles on less well known subjects that have been proposed by our readers. This is why we value the collaboration of people who want to share their knowledge or constructions with the rest of the AFOL community. For this reason, we would like to thank everyone who has approached us to collaborate for all the fantastic articles they have provided and which are now an

important part of this magazine.

In the last few months there have been many novelties, like the LEGO® ideas set 21313 - Ship in a Bottle, the new modular building 10260 - Downtown Diner and the inauguration of the LEGO® House (for which you will find a report in this issue). And although there are many new sets in a variety of themes, there is a certain lack regarding the classical themes that are so close to my heart...

As far as we are concerned we have celebrated our annual event, the HBM Event 2017, which we celebrated on December 8 and 9. You will also find a report on that event in this issue. It has been an opportunity to get together and meet some new additions which we hope will continue to fuel our community. We are also preparing our 10th anniversary! When we started back in 2008, none of us ever imagined we would make it this far, neither in time nor in the impact the magazine has had, but that's a matter for the next issue...

We hope you enjoy this issue.

Happy reading!

#



# S90: History of a LEGO® Submarine



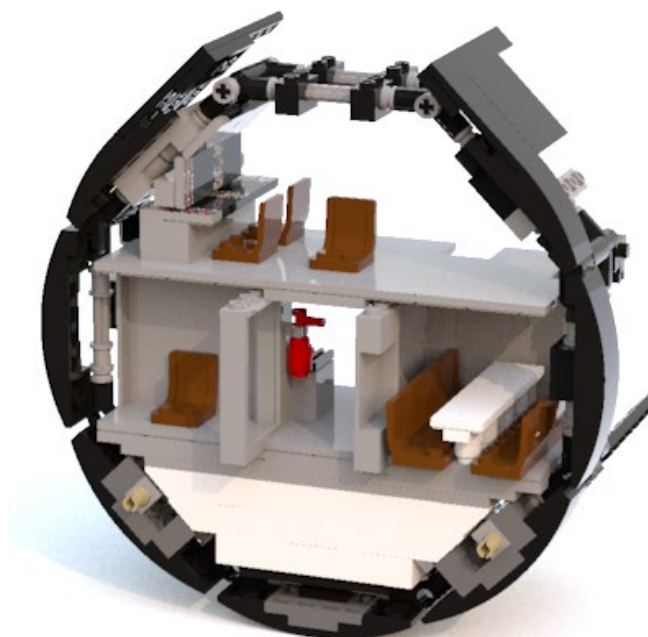
*Text and Pictures by Sigpro*

The first time I considered building a minifig-size LEGO® submarine was during the ALEBRICKS exhibition, on 23-24 April 2016. That was the second time I showed my Imperial Base and I wanted to build something else. My first task was to gather information, which was a long process, although I already had some knowledge of submarines (as I am addicted to movies like *Crimson Tide*, *The Hunt for Red October* and others), as my intention was to build something realistic.

The easiest solution was to find something under construction in Spain, and I came across a 2010 PDF file which explained the new S80 project for the Spanish Navy. This is a submarine class entirely designed in Spain, as an evolution of the French-Spanish Scorpène class, built equally between DCNS (France) and NAVANTIA (Spain, formerly BAZAN shipyards). This class is operative in Chile and Malaysia, with India and Brazil as future users. The future S80 class will incorporate AIP (Air Independent Propulsion), which is an electricity generator fed by a fuel cell. It extracts hydrogen from a bio-fuel and reacts with oxygen generating electricity, enhancing the submerged range up to three weeks.

One of my main concerns was the scale. Minifigs are different to humans, as their big heads, broad shoulders and short legs must be adapted. After thinking carefully, I decided to use a scale of 1 stud = 33.5cm, so a standard minifig would be 175cm, which is average for a human.

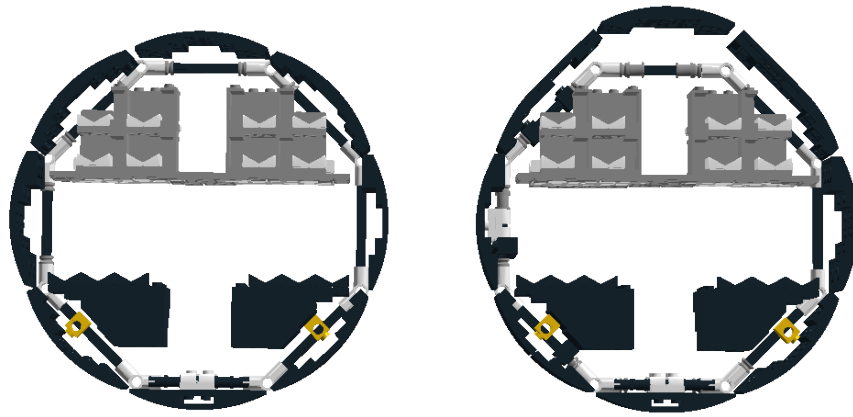
Concerning the submarine itself, one of the advantages of current submarines is their clear external shape, however this required finding curved slopes which fit correctly. I solved this using an octagonal structure built from 7L axles and 135° Technic connectors, covering this with an 8-stud long cover with attached slopes.



Interior space is essential when the dimensions are limited, so I had to strain my brain to save more room. From the initial to the final structure I changed the Technic bricks to Technic double bearings, which saved me two plates in height – not that much, but everything counts. Another decision was to divide the hull into 48-stud modules, as the shelves I have at home are about 100 studs long; I did this to save room at home.

Since the inception of the build in late April / early May 2016, to the first picture of the LDD design, barely three months had passed. However, a long process was still before me... the first evaluation in BrickLink to find the price of the submarine came to about 3000 Euros. This was because some LEGO® parts existed only in LDD and not in real life, or because the parts were scarce. And even then, after having the first LDD version of the submarine, I realized something was wrong. I hadn't included the 'hump' over the hull, so I had to modify the design to make it more realistic.

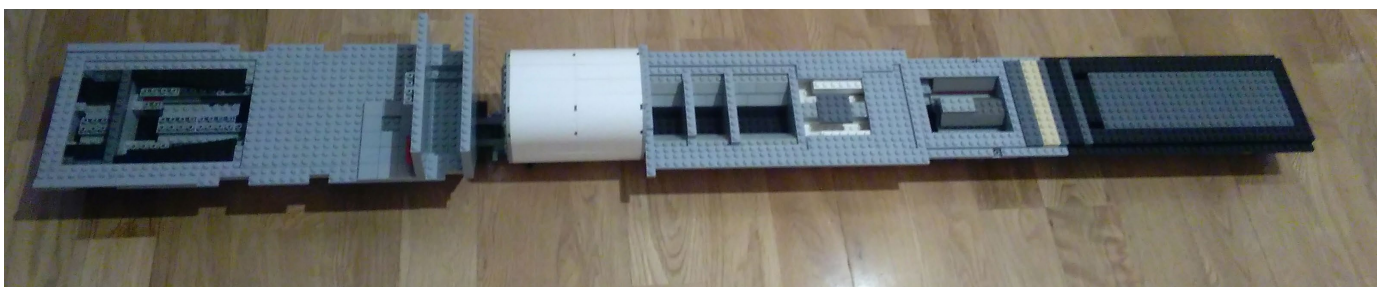
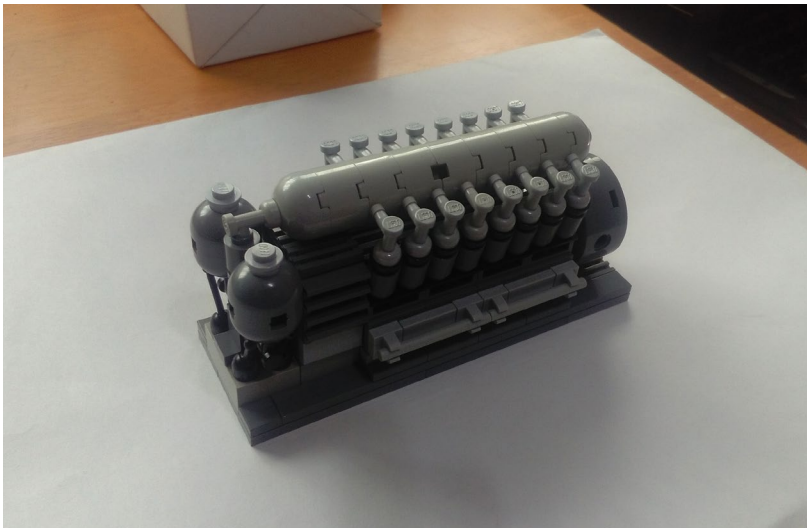




I kept on improving the design until the 'definite' version saw the light, and at the end of 2016 I started to buy parts. Although before that date I had already built some 'simple' equipment for the submarine, like the diesel generators (see pics), although I modified these later.

The submarine was growing and looking the part, from the bow to the stern. On 9 January 2017 I uploaded a picture that really showed how big the model would be.

The sail (i.e. turret or conning tower) was built in advance, but without the diving planes.



Then came the day where I had built something which was now clearly identifiable as a submarine (or at least half a submarine)





The stern was tricky! I decided to change my first design of a pump-jet to something better and more realistic (it took a few hours to modify the internal screw and the external shape).

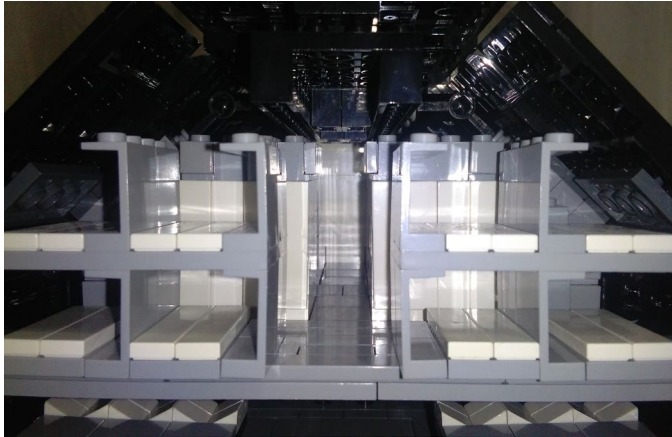
**The completed submarine measures:**

Length: 241 studs / 193cm, representing 81 metres at scale.  
Beam (width): 22.7 studs / 18cm (approx), representing 7.6 metres.

**Internal layout, from bow (front) to stern (rear)**

Upper deck: bunks with two lavatories, command room with several rooms, AIP area, cofferdam, diesel and electric converters room and electric motor.

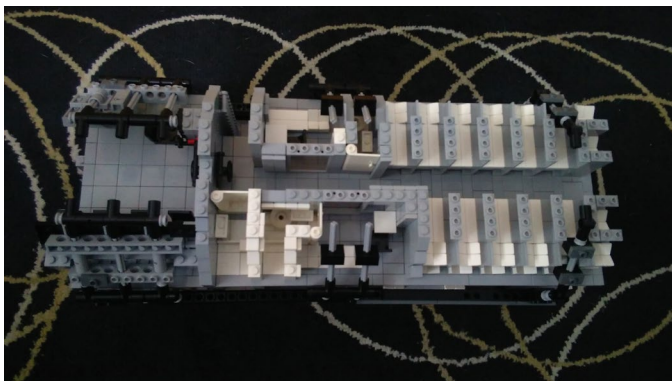
Bunks seen from the stern (those located in the bow)



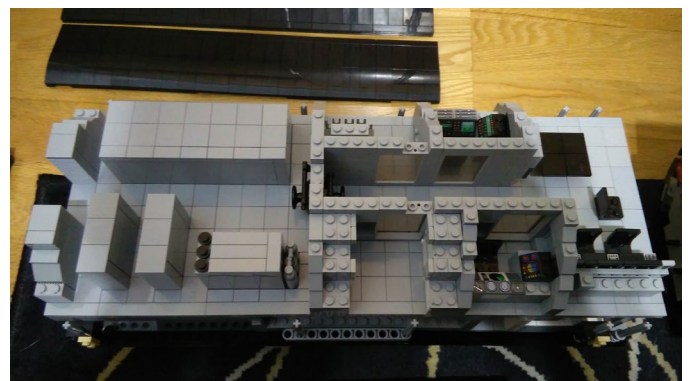
Top view



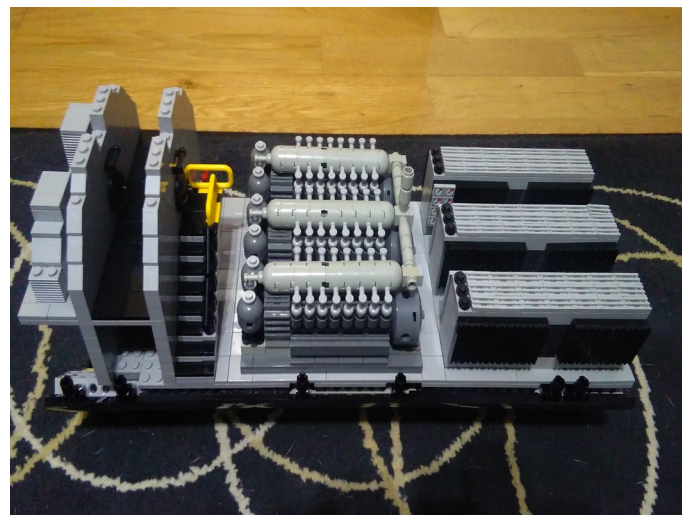
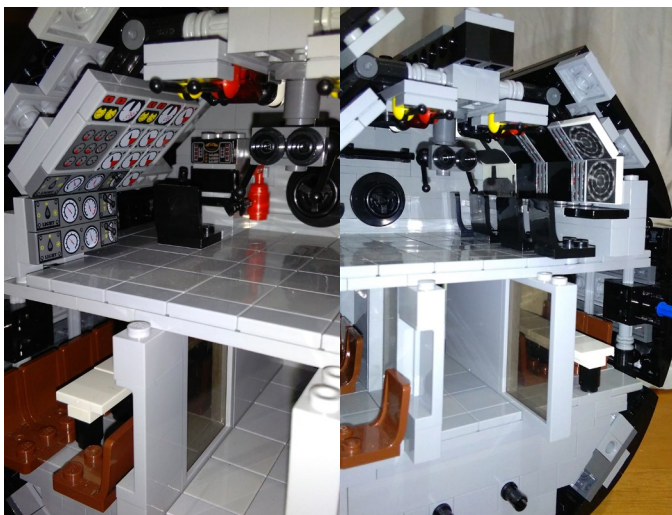
Rear command room and AIP area.



The use of custom stickers allows details like these sonar screens and damage control screens.

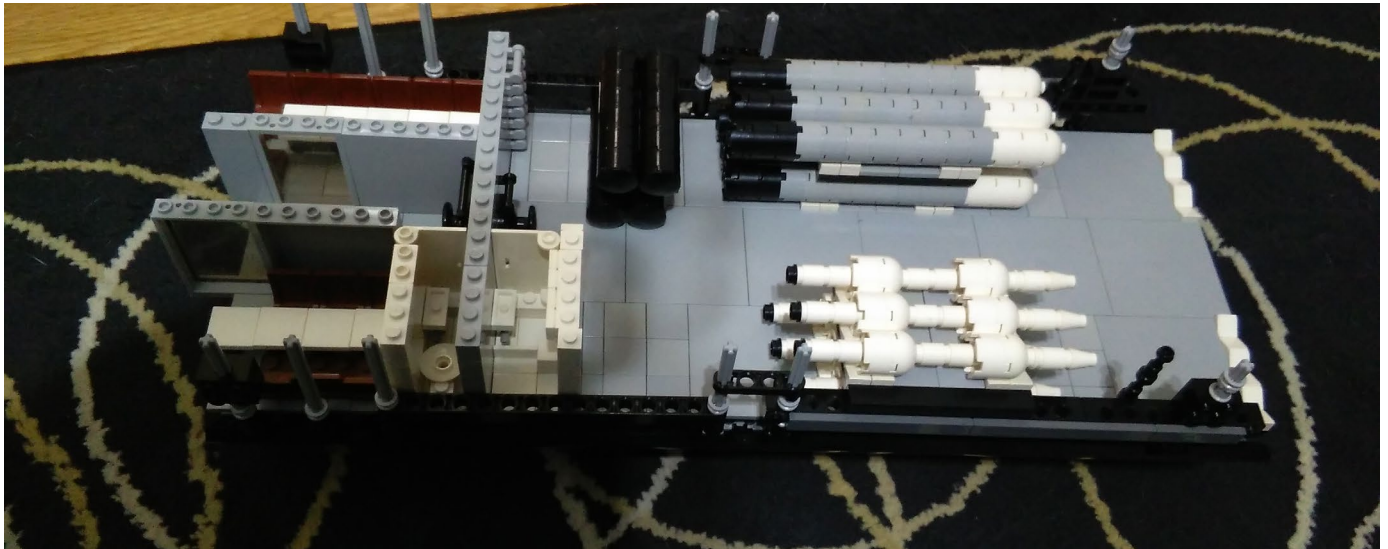
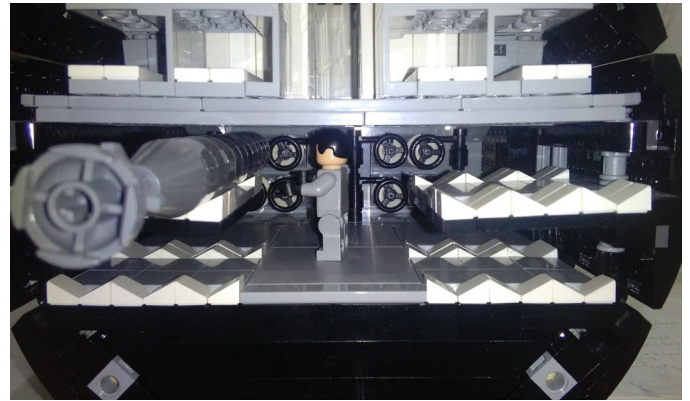
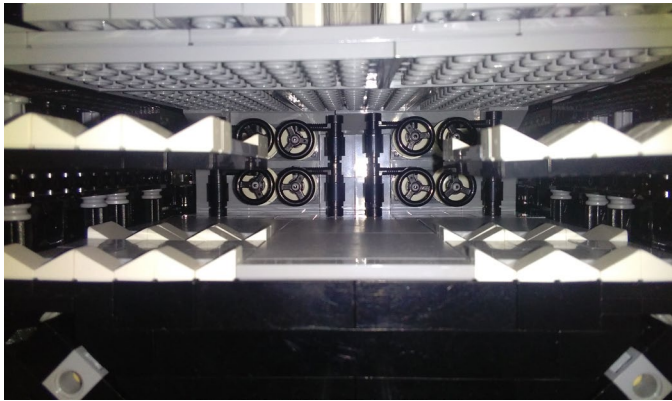


Cofferdam and engines.



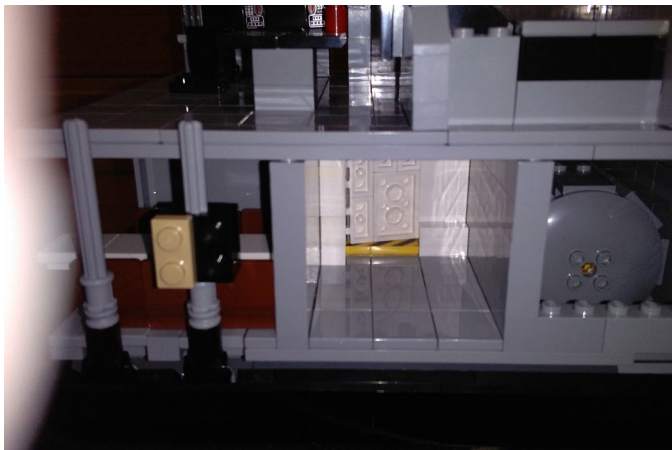


Lower deck: weapons room (torpedos, missiles and mines), two lavatories, mess halls, kitchen and two pantries.  
Detail of the eight torpedo tubes and a poor sailor. The ceiling is very close!



Kitchen, freezer (port side).

Kitchen, fridge (starboard side).



EI

The submarine holds a total of 40 minifigs. Two of them have individual cabins and the Captain's one has its own shower. The rest of the crew have two showers and two WC.

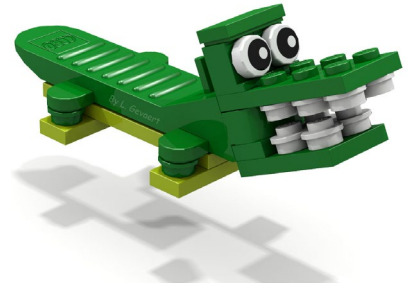
The submarine has eight torpedo tubes, and the weapons room can hold 24 'long weapons' (i.e. torpedoes or missiles) and 4 'short weapons' (i.e. mines). Each storage position for a long weapon can hold two short weapons.

You can see the whole project in <https://www.flickr.com/photos/28966137@N03/albums/72157667570670032/with/28851370245/>

#

# Uses of Brick Separator

By Lionel Gevaert

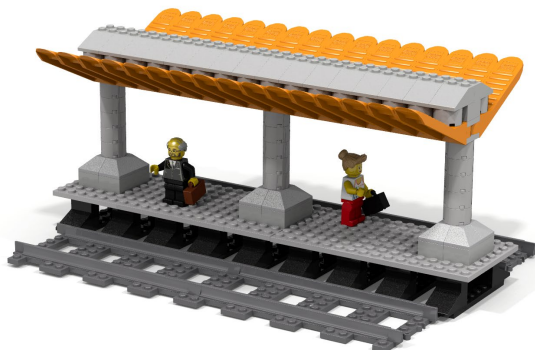


My name is Lionel, I am 43 years old and I come from Belgium. I started to play with LEGO® a long time ago, at the age of 8. I never really had a dark age – just a small slowdown but no real period without having some bricks in my hands. My main interest is in LEGO® City but I'm not against making an occasional detour into another theme if I really like a certain model. Sometimes I like to build a Star Wars ship or a big Technic set like the Bucket Wheel Excavator. But my preference is still the city.

I have my own LEGO® city, kept in a big space (2.5m x 7.5m) where I can grow it further. Recently, I've even installed some lights in the display. You can see the result here (by day: [video 1](#) and by night: [video 2](#)). This city really started when I was 12, when I finally received my first train (7745 High-Speed City Express Passenger Train). I was then able to run this

train around my city with only two buildings... but it was just a beginning.

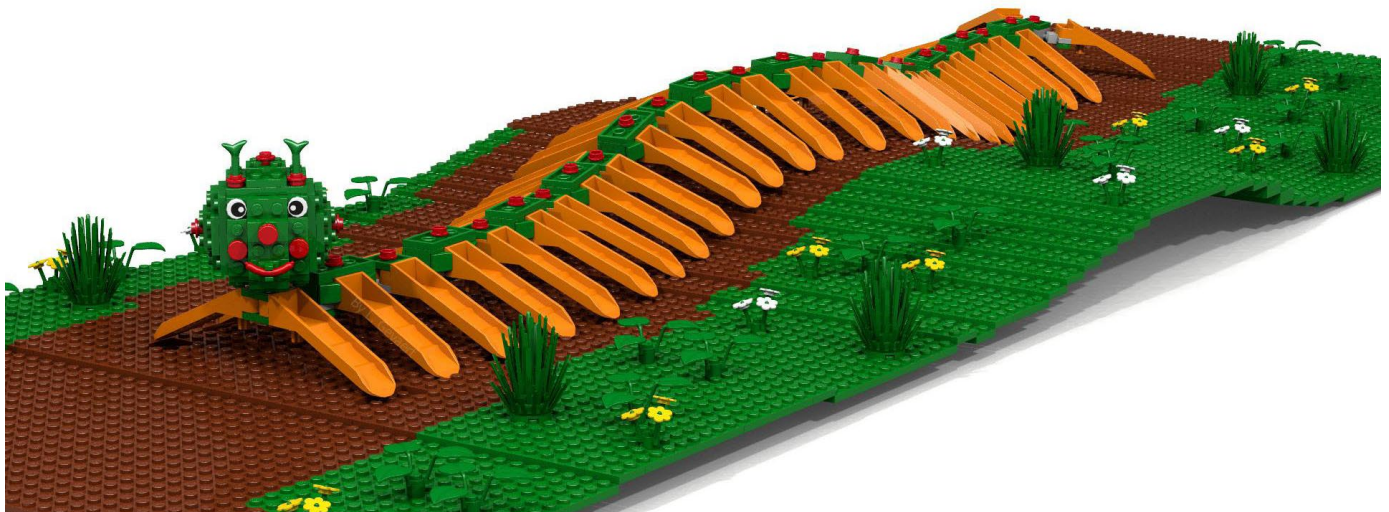
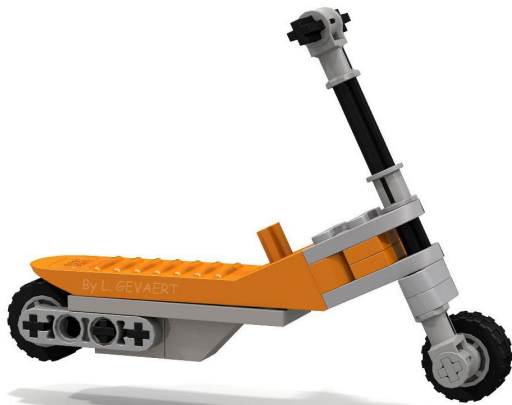
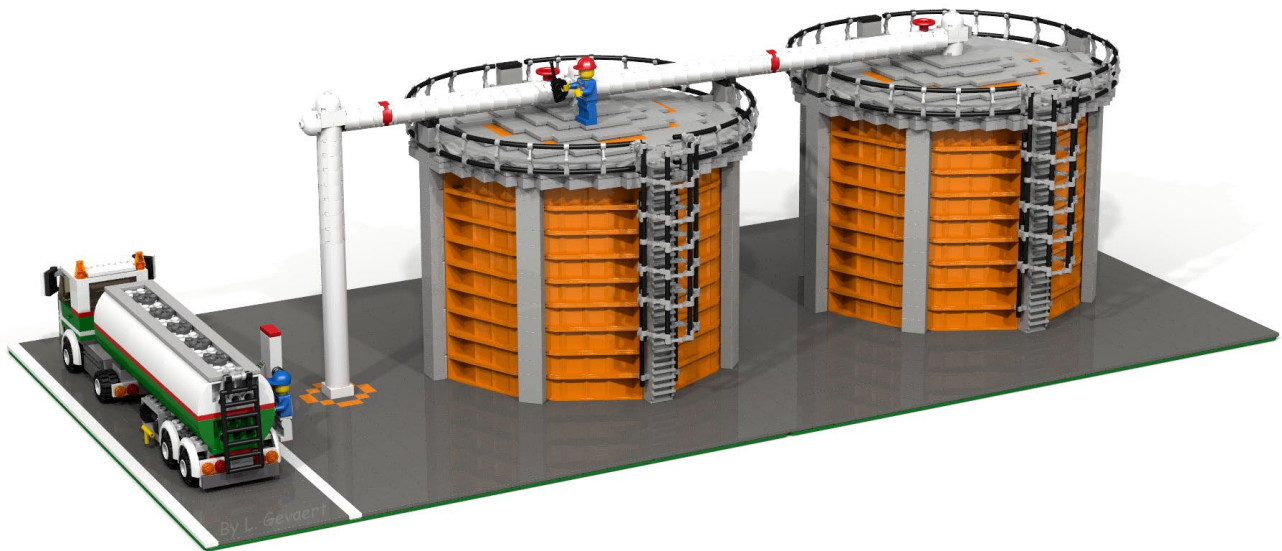
Recently, I have discovered a new interest. It all started when I found a brick separator under the couch and kept it in my hand. I was watching television while manipulating this weird brick, and some ideas would come to me... Oh ! Like that it's like a snowplough... and like this it can be a door, a wing, a body... but without any conviction... I was just letting my mind wander. The next day I was going to put it away with the others, and when I put it in the bag I noticed that I really had lot of these brick



separators – more than hundred – and I thought that it was really a waste to do nothing with them. Sell them? Pretty impossible... everybody has one (or even many). So the time had come to try to do something useful with all these things. My first attempt was to use the LEGO® Sweeper & Excavator (set 60152) I'd recently built and turn it into a snowplough. The result was pretty good, and just for fun I put a picture on the internet (via Facebook) and quickly received a lot of good reactions from people. It was really funny to see that a lot of AFOLs don't really know what to do with all of these brick separators either. And the project to create more solutions was born.



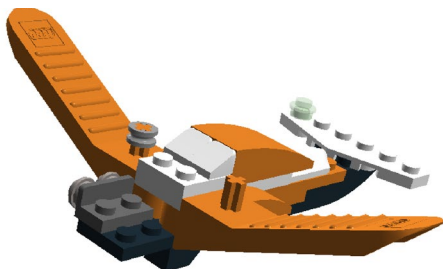
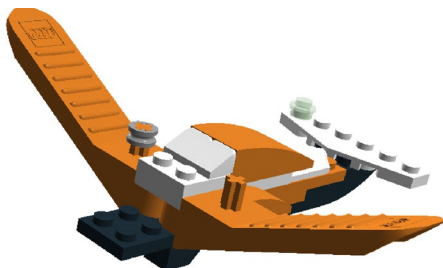
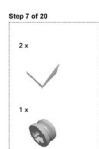
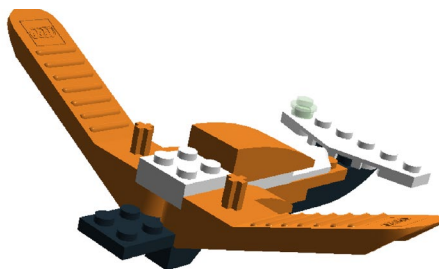
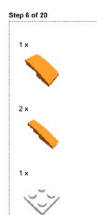
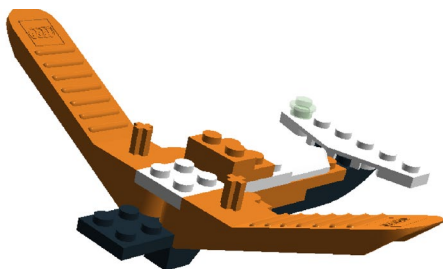
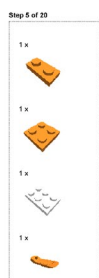
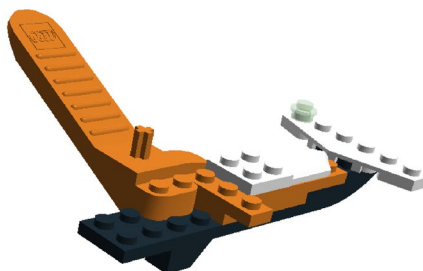
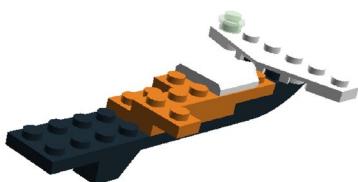




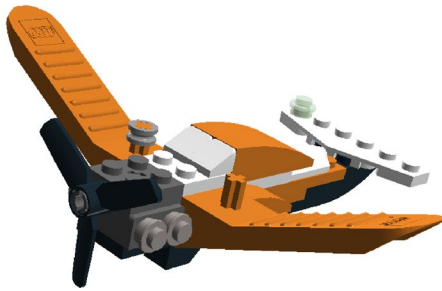
To create, I work a lot with LDD (LEGO® Digital Designer). For me this tool is really perfect when you don't really know exactly what you want to create. You can add in all the needed pieces without spending too much time searching and not knowing if you have the right parts in your stock. And also, don't forget that you need to sort out when you need to stop. Also, with LDD you can quickly change colors, make some adjustments, change the view and manipulate. I took lot of time learning to use LDD, but once you're used to it, it's a really great tool. Once the model looks okay to me, I use 'LDD to POV' to convert the file and then POV-Ray to render the model. For those who don't know, the rendering is an operation that allows you to create a pretty realistic picture based on a 3D virtual model.

I tried every week to publish a new idea. So far I have already published 12 ideas, but I still have at least ten further ideas in mind. For the moment I still have some ideas in advance which are not yet published, but it will become more and more difficult to create something original. Here I will present you with a new design created exclusively for HispaBrick Magazine: a Disney plane. This build uses a lot of pieces from LEGO® set 31028, and was also influenced by the Disney Movie 'Plane'. Here is the result:

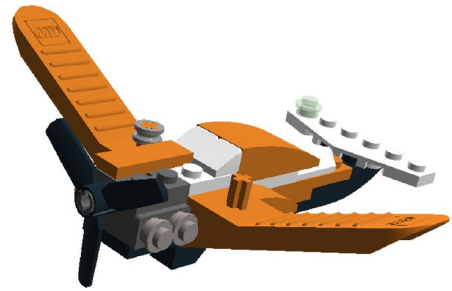
#



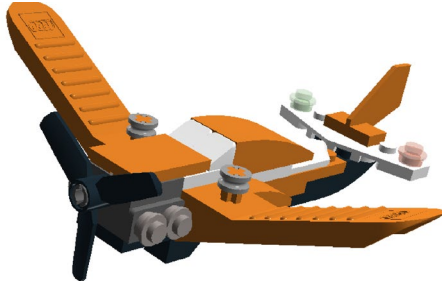
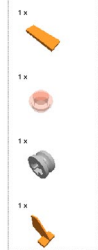
Step 13 of 20



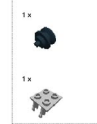
Step 14 of 20



Step 15 of 20



Step 16 of 20



Step 17 of 20



Step 18 of 20



Step 19 of 20



Step 20 of 20



1 x BRICK 1X2 WITH CROSS HOLE - Black

1 x BRICK 2X2 W/ SNAP AND CROSS - Dark Stone Grey

2 x ROOF TILE 1X1X2/3, PC - White

1 x PLATE 1X1 ROUND - Tr. Green

4 x PLATE 1X1 ROUND - Silver Metallic

1 x RIGHT PLATE 2X3 WANGLE - White

1 x ROOF TILE 1X2 INV - Black

2 x PLATE W/ BOW 1X2X2/3 - Bright Orange

2 x Brick with bow 1x4 - Bright Orange

1 x LEFT PLATE 2X3 WANGLE - White

2 x ANGULAR PLATE 1.5 BOT. 1X2 1/2 - Dark Stone Grey

1 x HUB FOR FORK - Black

2 x BRICK 1X4X1 INV BOW - Black

1 x PLATE 1X2 - Bright Orange

2 x FLAT TILE 1X3 - Bright Orange

2 x TYRE Ø17.5 X 6.24 - Black

1 x WHEEL FORK 2X2 - Medium Stone Grey

2 x 1/2 BUSH - Medium Stone Grey

2 x CORNER PLATE 1X2X2 - Bright Orange

2 x PLATE 2X2 - White

1 x PLATE 2X2 - Bright Orange

1 x CROSS AXLE 3M - Black

2 x HUB Ø11.2 X 7.64 - Medium Stone Grey

2 x 2X1X3 STEERING KNUCKLE ARM - Medium Stone Grey

1 x FLAT TILE 2X3 W/ ANGLE - White

1 x PLATE 2X3 - White

1 x PLATE 2X3 - Black

2 x ELEMENT SEPARATOR - Bright Orange

1 x RUDDER 2X3X2 - Bright Orange

1 x PROPELLER 3 BLADES MØM 8 - Black

2 x PLATE 2X4 - Bright Orange

1 x PLATE 2X6 - Black

1 x PLATE 1X1 ROUND - Tr. Red



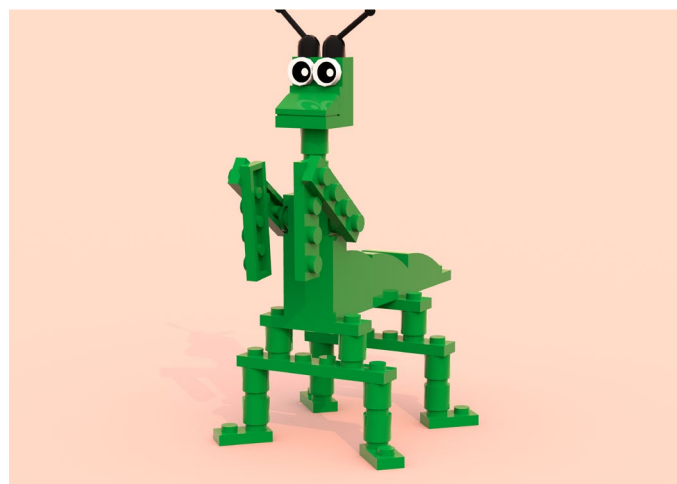
# Writing a LEGO® Book - The LEGO® Zoo

By Jody Padulano



Writing a book has always been one of my childhood dreams. I read many books back then, literally piles of them, and I wished to be able to entertain a reader the way these authors were entertaining me. It's all a matter of inspiring people, just as LEGO® bricks aim to do. When you find something interesting, you get inspiration from that and it may lead you to reproduce the things you love. This also applied in my case – I tried to make LEGO® sets that looked like the ones I was given, and I tried to write books in my notebooks that looked like the adventure books I loved to read.

I found them again as an adult, and they were terrible. Interesting, but terrible. Anyway, I was a child and that was the best I could do. As an adult I tried to write something better, and started writing LEGO® news on a small blog, my LUG's one, in order to keep practicing. Who would have ever guessed that this practicing would have led me, one day, to write a book of my own? I certainly wouldn't have. But that became true in a very short time. From daydreaming about writing a book to having my very first book in my very hands took only a few months of work. I realized that this was a reality only when I saw the cover for the first time. But let's backtrack to how it all started.



People knew me from my articles on my LUG's site, and I was active also on Facebook which led me to be known even outside of my LUG. So when NuiNui, a Swiss editor who was looking for LEGO® authors in Italy, asked the biggest LUG in my country (ItLug) for people interested in writing, I was contacted. I was euphoric, but still cautious as I always am when something that I really want is approaching. I had some telephone interviews and I gradually understood that this thing was real, and that I was about to make it even more real. I met the editor and set up a contract – my first one for a book. I was amazed! I really couldn't believe it because, well, it has always been a dream of mine.

My task was to develop some funny-looking animals in LDD and, if the editor liked them, build 50 of them in order to complete the book. I was also asked for some more chapters that would help children to organize their bricks and learn how to get the parts used in the book. I was also asked to use very common bricks – ones that one could easily be found on BrickLink without spending too much. Things went really smoothly, my concepts were liked and this became a daily job. Creating an animal in LDD, making instructions, rendering, writing an introduction, and working out the cost for the pieces that made it, were all tasks that I had to execute for every single animal, and it wasn't easy.



I stumbled upon many problems, from technical issues with the software I used or the machines I worked on, to lesser problems of various nature. I happened to finish one animal only to discover that some pieces were very rare and unavailable on BrickLink, which led me to have to re-work the model. One time I even had to start again from scratch.



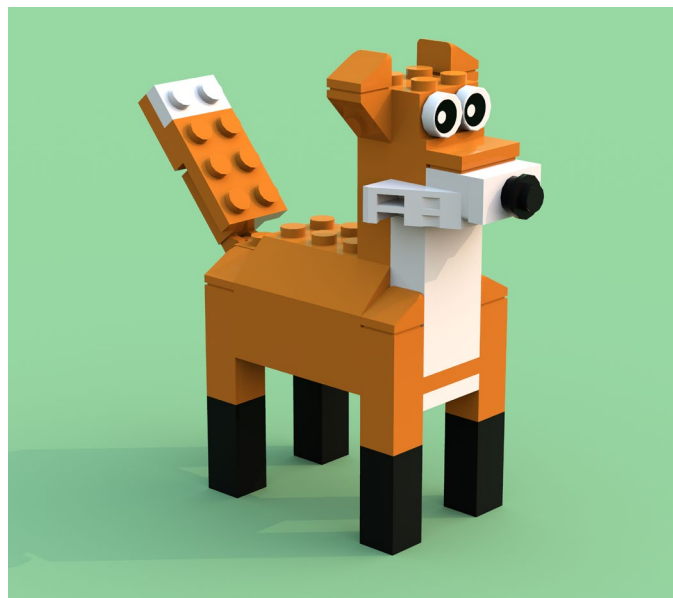
None of these problems, however, stopped me from achieving my goal, and in the end I can say the months passed by smoothly as the work kept on going and more and more animals were complete. In the end all 50 animals were ready in a timely manner. I remember sending in the last few days five animals at a time, until with a final email all of them were over and my job was ended. I was relieved. All the stress that had built up due to the fear of missing the delivery date flew away in seconds and was replaced by a sense of relaxation mixed with joy for the work done. This is the same thing I usually experience when I place the last brick on a MOC that I like, and then can't wait for it to be displayed at some event. I couldn't wait to have my book in my hands. Editing and printing took some months, and I always feared that something could go wrong in the meantime. But this didn't happen, and in September the book hit the shelves in many libraries. The editor was very happy and asked me to write a second one. I couldn't believe that. I recall the moment like it was seconds ago: I was in a parking lot and was parking my car when the phone rang. I was so happy I can't find words now which are accurate enough to describe it.



The LEGO® Zoo (the title of my first book) has a full collection of 50 cartoon-style animals. I drew inspiration from cartoon drawings of animals found on Google images. I would choose the one that I thought fitted best with my style, and built that. One exception is the cat, which should, in theory, look like my girlfriend's cat, Paco. Or something like him. Every LDD model is downloadable via QR code within a Zipfile also containing a rendered model which rotates through 360°. All the parts for each animal are checked on BrickLink in order to be easily found. There is no animal that needs a BrickLink order from more than a single shop. Most pieces can easily be found on the LEGO® Shop site in the Pick-a-Brick section.



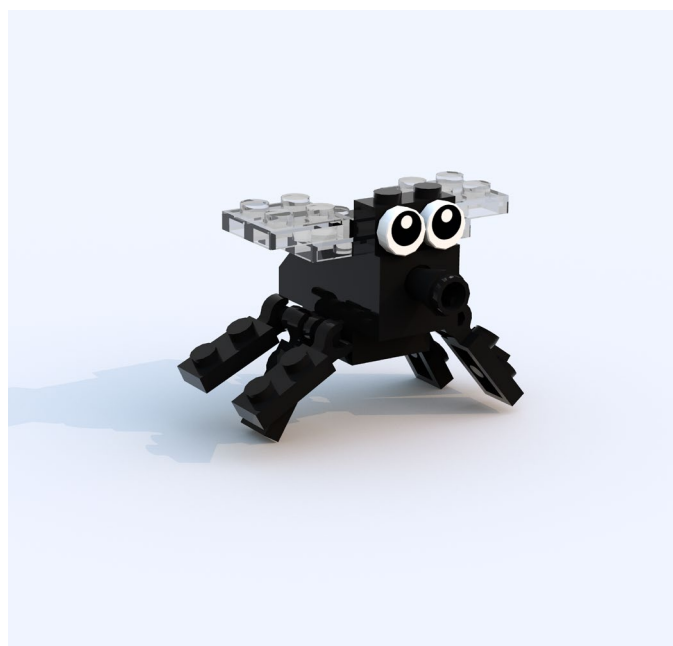
This book is dedicated to Joe Dever, who was my favourite childhood author and who sadly passed away in 2016. He inspired me so much I can hardly tell you, and I was lucky enough to have met him in person and had one of his books signed. I think about that day every time I am asked to sign my book for friends. I don't find myself that important, nor do I expect in my wildest dreams to become such inspiration as he was for thousands of people, but if I can manage to inspire even a single child, my job is done.

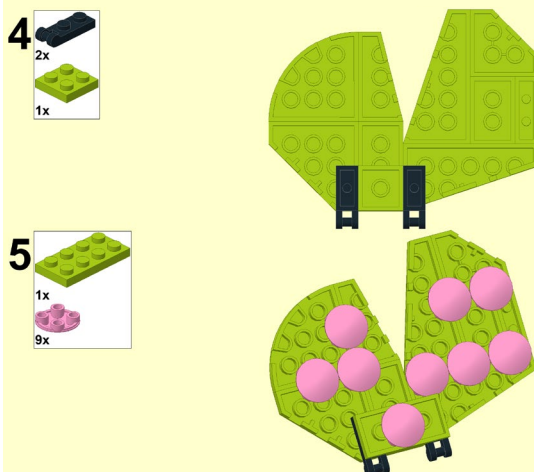
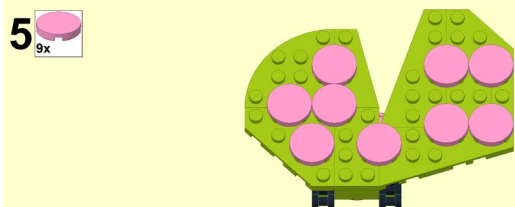
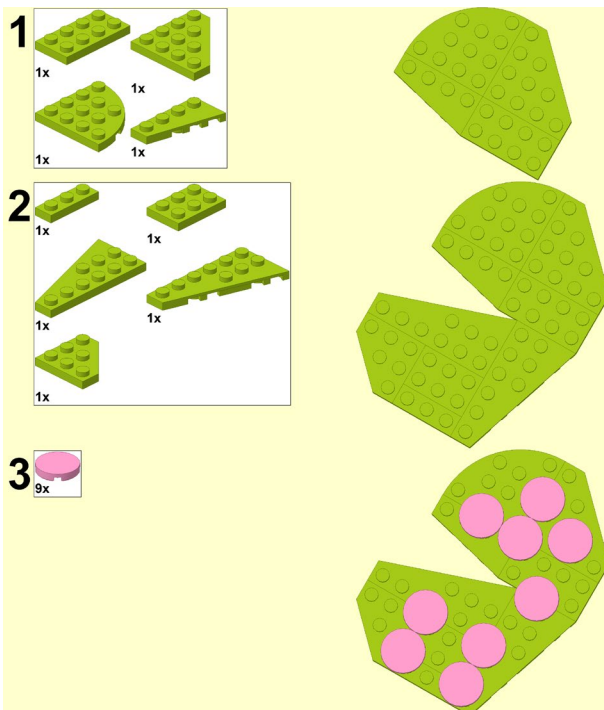
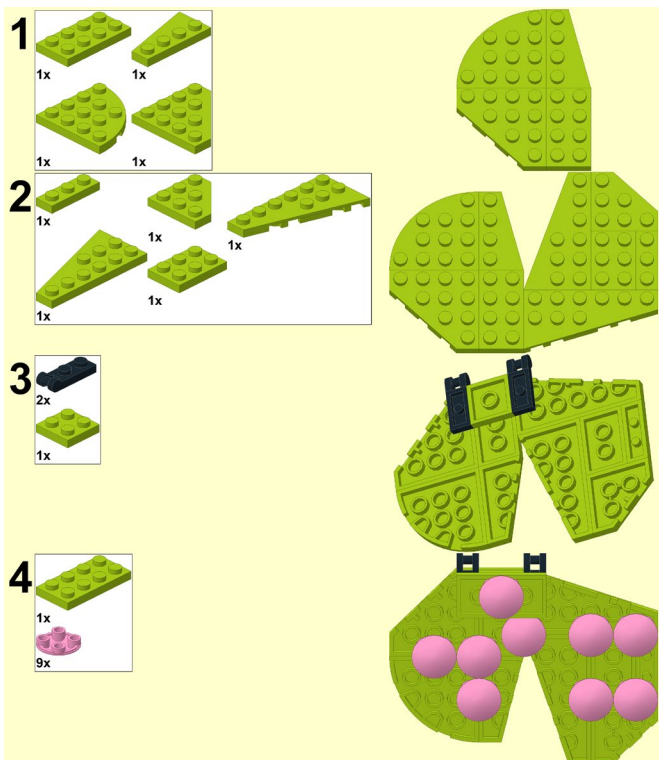
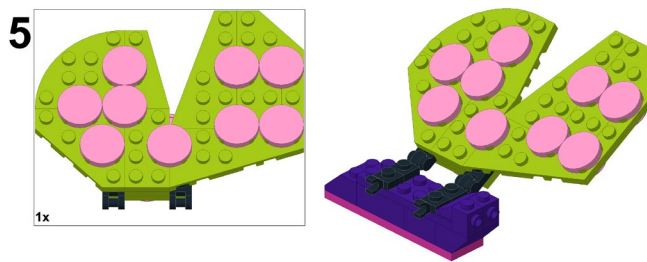
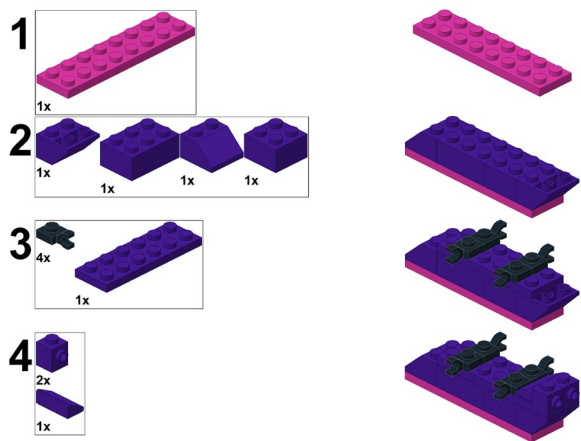


I have also written a second book that will hit the shelves in 2018, and I'll start writing a third one as soon as possible. I am amazed by how it escalated so quickly, but I want to make hay while the sun shines. I mixed my two passions – writing and creating LEGO® models – in the best way I could hope for. I don't know if I'll ever be able to take my time and write a real adventure book that tells a story, but only time will tell.

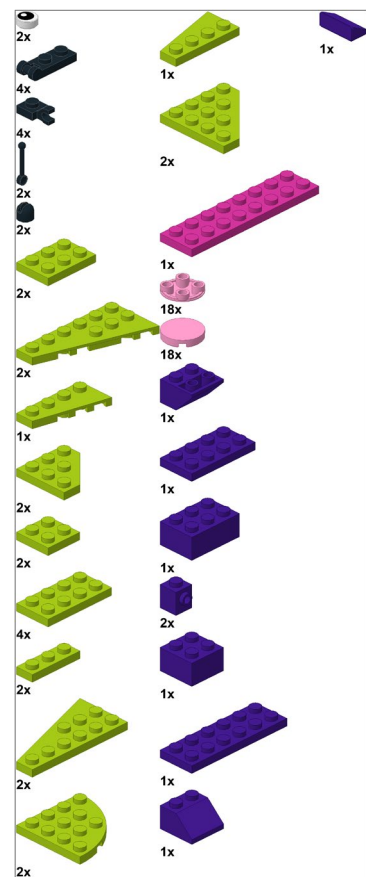
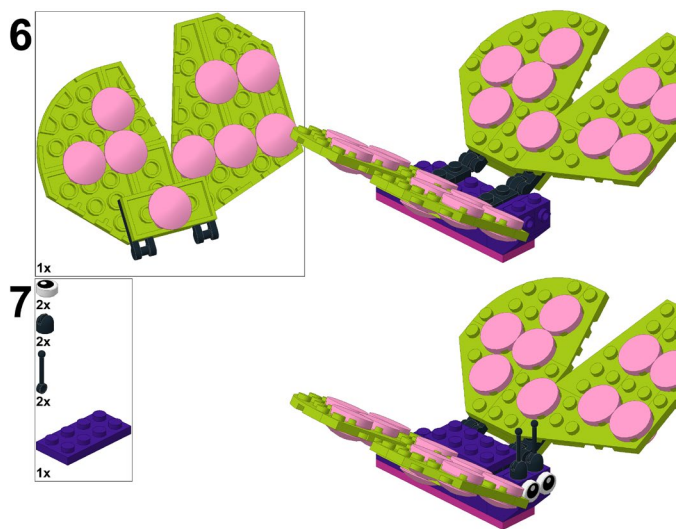
In the meantime I am just happy to share with all the wonderful readers of HispaBrick my personal experience, wishing everybody who really wants something to seize their chance whenever it is possible. My dream was a small one, but in my mind it seemed unreachable until I made it a reality.

#









# LEGO® GySEV/ROeEE Siemens Vectron Locomotive

*By Donát Raáb*

## 1. Introduction

Vectron locomotives are part of the Eurosprinter family of locomotives built by Siemens Mobility. These locomotives are quite universal, they are powerful enough to pull heavy freight trains, and their performance makes them capable of pulling passenger trains with great acceleration and top speeds. Most locomotives of the Eurosprinter family are capable of running under different catenary supplies. Dual-voltage locomotives can serve under AC-supply on different voltages and frequencies, while multi-system locomotives support different AC- and DC-supplies as well. It is also possible to equip the machines with a little diesel motor unit so they can serve the industrial tracks as well, where in most cases no catenary is built.

The GySEV/ROeEE railway company ordered nine of these locomotives from Siemens Mobility, with different equipment (two AC with diesel module, three MS and four AC locomotives). This company is owned by the Austrian and Hungarian State, and also partly by private funds. They serve on different lines both in Austria and Hungary, where two different types of AC catenary support is used (Austria: 15 kV, 16.7 Hz; Hungary: 25 kV, 50 Hz). Since I'm building XXI Century, Hungary-related electric locomotives, electric motor units and modern passenger wagons using LEGO® bricks, I decided to try this locomotive in 8W (Fig.1).



Fig.1: Dual-voltage Siemens Vectron locomotive in GySEV/ROeEE colour pattern

## 2. Building techniques

I first designed the train in LEGO® Digital Designer. LDD offers the ability to play with virtual bricks, so I can try different solutions for the patterns and shapes of the locomotive without spending any money on real bricks. LDD does not allow certain building techniques (like stressing cheese slopes facing each other). It does have a hinge tool that allows 0.01 degree rotations of bricks and plates with clips, so I could design most of the body of the train in LDD. Once I had a good understanding of the parts I was going to need I moved on to the physical build. The following are some of the special techniques I used to recreate the key features of this locomotive.





Fig.2: The completed LEGO-locomotive. Letters from 'A' to 'F' mark different building techniques – see text for further explanation. Bottom right image shows the LEGO® locomotive in front of the real one.

(A) The sloped pattern: I was thinking for some time on how to create the angular green line on the side of the locomotive. The nearly horizontal lines were easy with plates, but the angular pattern needed a less blocky solution. A single 2×2 green tile is set between white cheese slopes. The tile is held in a place by a hinge brick from the inside. The top part of the angular green pattern is a green cheese slope.

(B) The half-plate problem: Since for the green angular pattern I built three studs in SNOT (1 stud in width equals 2.5 plates in height), a half-plate thin space remained. I used white flag 2×2 parts to fill this gap. The flags are held in place from the inside of the locomotive.

(C) Usage of panel 1×2×1 part: This locomotive has its lights right at the edge, so fixing Power Function LED lights is not trivial. These yellow panels allow some space behind the placement of lights, and this space is enough to mount fiber optics cables – which is perfect for leading the LED light from the blocky Power Function part to the front of the locomotive.

(D) The fiber optics cable also helped me with the top light, as there was no space for the Power Function element between the inverted green slopes and the hinge part fixing the whole windscreen.

(E) The sloping windscreen's edges are also sloping in an awkward direction – I needed a hinge connection capable of maintaining the sloping pattern made from cheese slopes. Fortunately the older finger hinge connection (with 2 and 3 fingers) – which is less bulky in height at the hinge than the newer bar and clip hinges – provided a solution. Though to make the outer green slopes look continuous, a half-stud offset was needed, and this was provided by jumper plates.



Fig.3: The completed build.

(F) Boundary of differently sloped surfaces: When two surfaces meet, closing at a non-parallel or non-perpendicular angle, it always creates the problem of how to minimize the gap between surfaces. In this case I used two rows of cheese slopes (green and yellow), with both rows built in from the top to the bottom.

### 3. What is inside?

I was personally happy with the building techniques used during the build of the locomotive, but I really wanted to implement something new, something which had not been done before. As I mentioned in the introduction, the real locomotives are dual-voltage or multi-system, so I tried to equip mine with different electric systems of different LEGO® Train eras as a simulation of the different catenary supplies of different countries. Since many 9V/RC operating LEGO® trains have been displayed in the past, I decided to create a unique one, capable of running on both 9V and 12V tracks. And do you remember the diesel module in the real locomotive? This function can be perfectly simulated with the option of running from an internal battery box.

Having 9V, 12V and RC systems together in the same locomotive required some special solutions. The main problem was that if I wanted to use all three operation modes, then RC (driven from SBrick) and 12V pickups should have connected to the 9V train motor. But a 9V train motor can't be separated from 9V track without part modification (and I didn't want to do that with the 9V train motor) – if the locomotive stayed on 9V track it may run. The next problem grew from this fact – I didn't want to short circuit my SBrick by putting current from the track on its output, and connecting the 9V track and internal battery box through the SBrick. A further problem was related to 9V and 12V operation – when the locomotive runs in 9V mode, the '+' and '-' poles of 12V pickups may short circuit the locomotive when both 12V pickups touch the same 9V rail ('+' or '-') when going over a point.

The solution for these problems was to build Power Function polarity reversal bricks into the model, as with the middle '0' position I'm able to separate the SBrick and 12V pickups from the 9V train motor. Both polarity reversal bricks are driven with a 1-1 Power Function M-motor – this allows for remote switching between operation modes (each M-motor is plugged on the outputs of the SBrick). In RC-mode the SBrick powers the 9V motors, while 12V is disconnected (by default this mode is only allowed on non-9V track). In 12V-mode the circuit between the 12V-pickups and the train motor is continuous and in 9V-mode both 12V and SBrick are disconnected. The final problem was to fit all the cables, polarity reversals, M-motors and LED lights into the locomotive. The schematic circuit diagram can be seen in Fig.4.

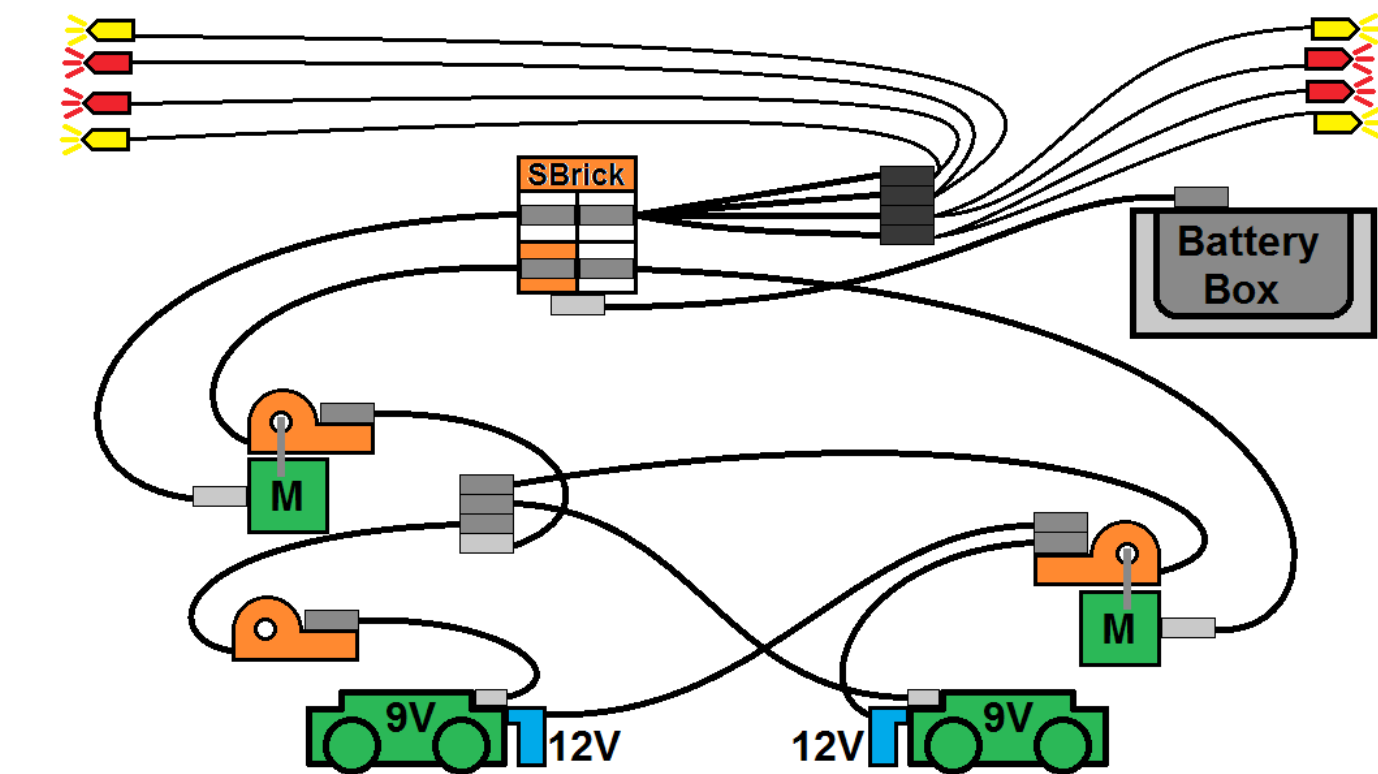


Fig.4: Electrics inside the locomotive. Light gray boxes are the 9V/PF plugs of Power Function extension cables, dark gray ones are the PF-only ends.

There are two minor non-purist solutions in this LEGO-locomotive. The PF LED lighting circuits are modified to allow polarity-sensitive turning on of the lights – depending on polarity only one of the two lights will be lit on the same brick (V. Kovacs, 2011[1]). The other modification concerns the cables between the 12V-pickups and PF-system – these are halved PF-cables. The cut part is screwed into the 12V LEGO-part (which is however original and intended for 12V connectors).

So far I have tested the locomotive at two different LEGO® events. It runs smoothly in 9V and RC, but I could only test the 12V-mode on a short track, since I don't own much of this type of track. However, the 12V experiments were promising, and after carefully cleaning both the track and the pickups it worked like a dream on my 160 stud long test track.





Photo by GySEV



## 4. Acknowledgements

I would like to thank to my LUG, Kockajáték, for supporting me with various parts.

[1] V. Kovacs – Power Function Signal Lights, Railbricks Issue #9, pp.21., 2011  
#

# Working with MILS modules

*Text and Pictures by Ludo Soete*

My name is Ludo Soete, born on 22 October 1958, and father of two sons aged 23 and 21. My first contact with LEGO® bricks was in my childhood and started with a shoebox full of bricks, windows and roof tiles when on holiday with my grandparents on my mother's side. While growing up we had our own bricks and I shared them with my four younger sisters. As with most among us, I entered my dark age at a certain time, but then renewed my interest at the age of 30 and have been buying ever since.

I'm one of the six founding fathers of BeLUG, and was chairman for the first five years. I was also the LEGO® Ambassador for BeLUG and participated as a BeLUG member in the first ten editions of LEGOWORLD in Holland.

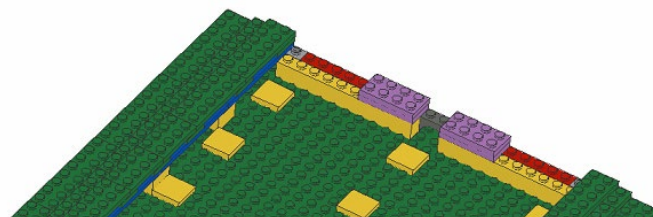
My main interest is in trains and station buildings, and recently I have started with MILS modules. For some pictures of my constructions see my BrickShelf page at: <http://www.brickshelf.com/cgi-bin/gallery.cgi?m=ludo-soete>

## MILS

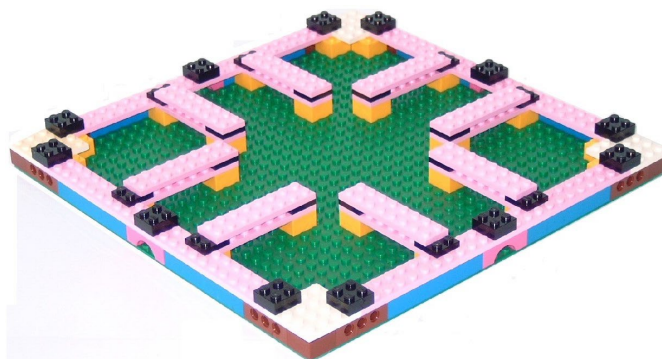
If you are an AFOL who enjoys building collaborative layouts or dioramas, you may have already come across the mysterious term 'MILS'. Don't worry if you haven't, because this article will hopefully de-mystify MILS as we explore this exciting modular layout system.

The abbreviation MILS has become more common among AFOLs, and a quick internet search will reveal many people and communities using it. My first contact with MILS was through articles in HispaBrick Magazine, and later through some pictures on the internet. Those displays were great but I hesitated to build my own because the modules described in HispaBrick Magazine focused mainly on terrain/landscape-based modules. Once I discovered the MILS Multi-Road Modules from Michael Gale (CCM = Compatible City Module), my MILS building adventure began. Now I could build a MILS city AND combine it with MILS terrain modules like the HispaBrick Magazine BTM and CTM modules.

So I started building modules of many different types and continued building an inventory of almost 100 modules. In the meantime, I made some improvements to my MILS City Road modules compared to the original building instructions. The expensive 32x32-stud baseplate in the original City Road modules bends due to the weight of the walkway. The improvement consists of placing a 1x10 brick (or a 1x8 + 1x2) adjacent to the existing red 1x8 bricks, and adding eight supplementary 2x4 plates to strengthen the construction. By using the additional 2x4 plates, you make an extra connection to the road tiles, and hold the original (red) 1x8 brick together with the additional 1x10 brick. See the yellow 1x10 bricks and purple 2x4 plates in the picture below.



While talking about the expensive 32x32 base plate, I was thinking of replacing the 'MILS MultiRoad Modular Building Adapter Base 32' with a wooden support. It could be cheaper and the released baseplate could then be used in another BTM, CTM or CCM MILS module. The height of the Building Adaptor Base is 22.25mm.



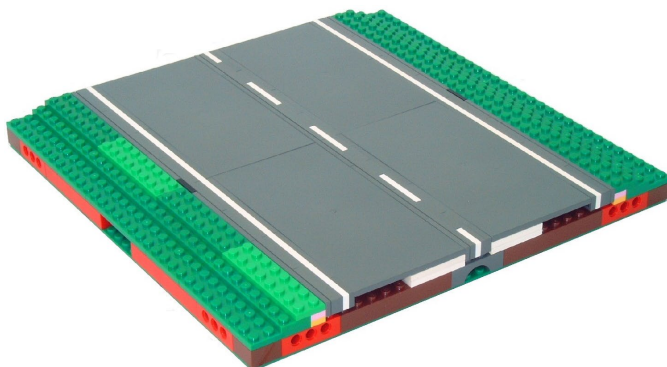
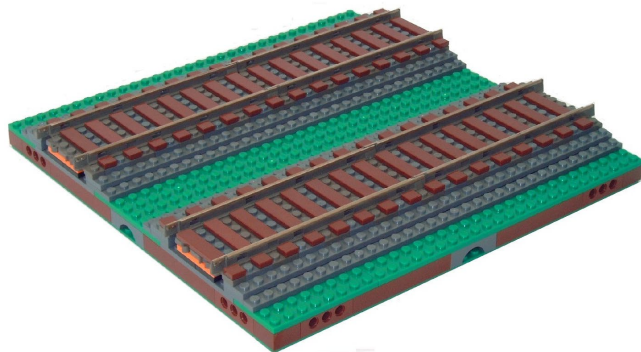
The cobblestone road you can find on [L-Gauge.org](http://L-Gauge.org) is one of the MILS modules I contributed to the community. The parking modules are also ready, and will be published soon. People are more than welcome to contribute MILS modules to L-Gauge.org by contacting Michael via the site.

Recently, I participated for the first time in a small display (2 by 6 meters) with some of my MILS modules. Because we were exhibiting in a train station, the main theme was obviously trains. However, a train layout can also be a wonderful showcase for scenes and details beyond the railway. I always try to add a small forest with a pond and some hidden mini figures (Little Red Riding Hood, Wolf, Witch, Scouts & animals). This is always a success, especially with the children! Due to some problems with the available space, we needed to improvise part of the display and here is where MILS modules become incredibly useful and adaptable. When you have enough modules and can't follow the plan anymore, MILS modules allow you to improvise new arrangements easily and seamlessly.





The display consisted of some MILS modules and the 'old' style of layout building, placing the baseplates on the table and placing the track, trees, flowers and buildings on them. The two work together, but the MILS modules offer something more due to their increased height – four plates for the terrain BTM & CTM modules, while the Multi-Road City modules walkways are eight plates high and the streets six plates high. This additional height makes it possible to create 'negative' relief landscape features, such as a small river or ditch. These features are nearly impossible using the old method of flat baseplates, unless you can tolerate the inconvenience of placing the supporting tables at different relative heights. I like the MILS concept, and the AFOLs who participated on the layout were also interested. Who knows? Perhaps they will be tempted to build their own MILS modules!



While experimenting with the modules I noticed when connecting the modules together that the light grey Technic pins function better than the black Technic pins with friction. The grey pins connect much easier, and are also easier to remove.

For storage, I searched for some plastic boxes with lids. This wasn't so easy because most boxes I found were either too low or too wide. Eventually, I did find some suitable boxes which were also easy to stack. They are handy both for home storage and for transporting by car.

## BlueBrick: Preparing the layout

BlueBrick is a familiar and useful software tool for designing layouts among the community. It also has the added advantage of expanding its libraries. I started building my different MILS modules with MLCad and generated the needed GIF files for BlueBrick using Paint and IrfanView (<http://www.irfanview.com/>). The latter is freeware and very handy for resizing pictures and converting to GIF format. Unfortunately, MLCad does not have the ability to create top view pictures of modules (Save Image(s)...), so I make the top view window as large as possible, copy it into Paint using the Snipping tool in Windows 10 and save it. I open this file using IrfanView, crop the borders and resize to 256 x 256 pixels for a 32 x 32 MILS module (BlueBrick uses images scaled 1 mm : 1 pixel).

Once ready, it's easy to distribute the files among participating people so they can use them too if they need to make some changes.

At the moment of writing this article, I'm also working on the BlueBrick pictures and accompanying xml files for the MILS MultiRoad Modules, which will also be hosted on L-Gauge.org, thanks to Michael Gale.

## Standardization

I recently browsed the internet for some pictures regarding MILS-compatible or lookalike systems and noticed that there are different versions of road modules which are not compatible in width or connection points. Some use a walkway from five studs (Michael Gale), others use four studs (Ostman el Sullusta & SweBrick). The SweBrick road modules have different connection point locations, the walkway is seven plates from the bottom, and they don't use a baseplate. As you can see, there's no standard between modules, and this makes it difficult to build large dioramas in a joint venture of clubs from different countries. The only standard I know of that mostly every train fan follows is 4-8-8-8-4 studs.

## Availability of pieces

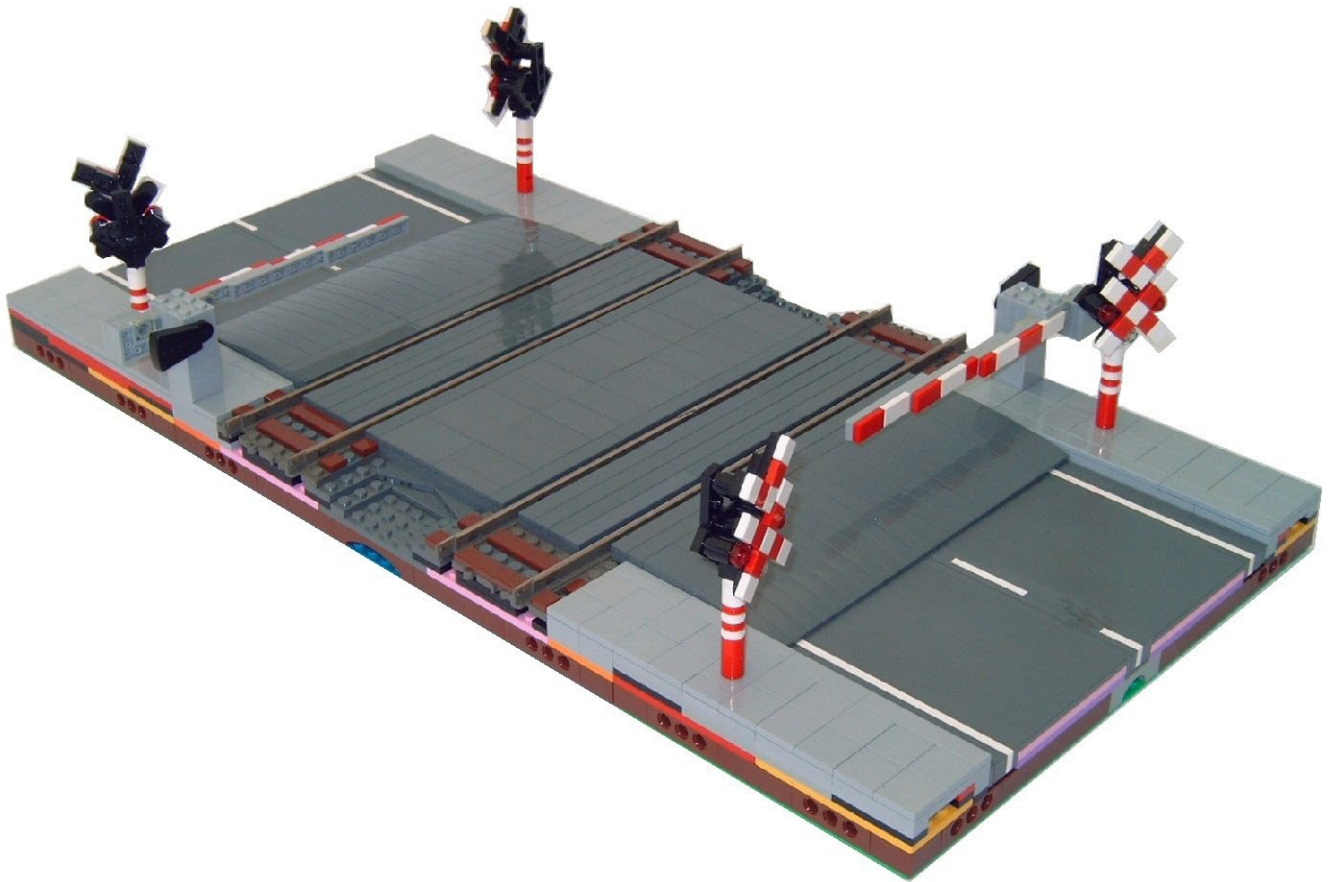
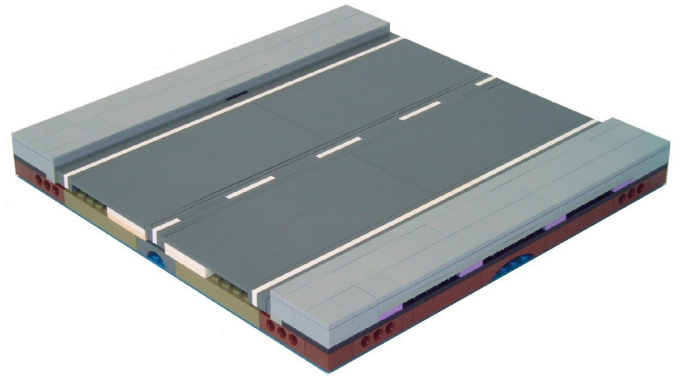
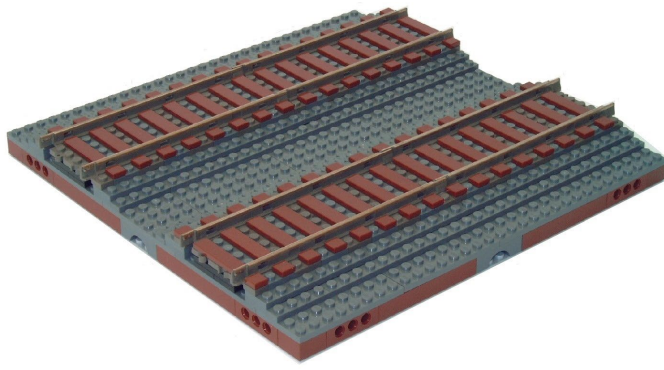
As we all know, LEGO® is an expensive toy and costs even more if the needed pieces become rare on the aftermarket, not forgetting the increasing high shipping costs too. Therefore, if someone from TLC reads this article, I would like to ask them to keep the needed pieces available in enough sets so it stays financially affordable for everyone to build MILS modules, which consume a lot of pieces. Once certain needed pieces reach a sky-high price, it will be over and done. This would be a shame as you can build very nice scenery with them.

## Next step

The next step in this story is to develop a cheap but easy to use and implement system for distributing electricity for railroad crossings, traffic lights, ...

I know some people are already exploring these ideas. I'm also looking for a solution. I do have some ideas, but I will need to make some prototypes and test them out.





## Credits

I wish to thank Michael Gale for hosting the MILS building instructions and reviewing this article, and Antonio Bellón for asking me to write it.

## MILS resources

<http://www.abellon.net/MILS/>  
[http://l-gauge.org/wiki/index.php/Reference\\_Instructions](http://l-gauge.org/wiki/index.php/Reference_Instructions)  
<https://www.flickr.com/photos/sullusta/albums/72157663013172655>  
<http://www.swebrick.se/index.php?topic=6350.0>  
<https://www.flickr.com/groups/mils/>

#

# Let's take some pictures of LEGO®

*By Stefan Matthies*

Have you ever thought of taking photos of your favourite building toy?  
Photos of your favourite movie scenes made out of a Danish playing system?  
Making portraits of your favourite mini figures because you like them so much?

Well, think no longer. Instead try it yourself. Oh, you have but weren't happy with the results? Maybe the backdrop felt strange? Or somehow the pictures revealed some nasty shadows that hid the faces or special details of your models? Then maybe this little article might give you some help for creating images that'll make you proud (no matter whether you're using a mobile phone, a compact camera or a rather expensive DSLR).

## Some Basics

When preparing for a photo session there are some simple rules you may want to take into consideration:

Depending on the subject you want to shoot, you will have to think of an angle that gives your photo a more realistic touch. Of course it's easy to snap from above but moving your camera lens to the eye level of your minifigs lets the viewer more easily dive into the scene.



Shot from above...



...and from eye level

Maybe you're lucky enough to have a LEGO® room just for yourself or you have to make do with the family dining table. Either way you still may want to take care of an appropriate background, as the top endings of the back of a chair or some tea mugs may distract the viewer's attention from your masterpiece. Instead try to put some cardboard in the background.



A neutral backdrop



One of the greatest problems will be the lighting. Using a built-in flash may light up your model but let the rest seem too dark. Putting up a desk lamp may give you enough light but may seem too bright on your picture and even create unwanted shadows, too. At this point you will want a lightbox. The main idea of such a thing is to gain as much control over the light and shadows in your pictures as possible. It gives you the chance to highlight the model and illuminate it by soft light, and also provides a neutral background. You can go and buy one, or have fun building one (customized for your creative ideas) yourself.

## A Lightbox

The list of needed materials:

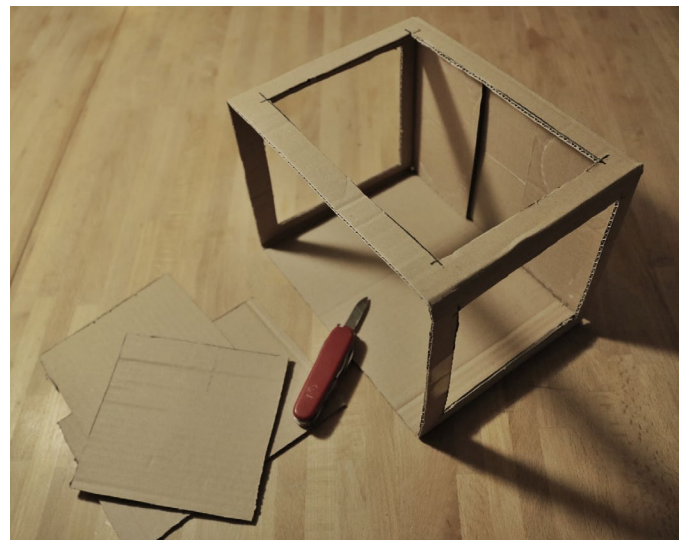
1. a cardboard box (the size depends on the models you want to take photos of)
2. a pair of scissors
3. a pen
4. a knife or carpet cutter (maybe it's needless to mention but please, take care...)
5. a piece of coloured cardboard
6. some sandwich wrapping paper
7. adhesive tape



First, you'll have to mark the 'windows' that will be cut out. Leave at least two to three centimetres towards all corners to prevent your box from becoming unstable.



Once you're done you can start cutting out the three sides.



For your next step use the scissors to fit the cardboard background inside your box and put it inside your box. But note: Don't push it in the lower corner; rather let it down like a curtain so it can reflect the light nice and smoothly.

The last thing to do is to cover the cut-outs with sandwich paper and fix it in place with tape on the outside.

Congratulations, you've just built your first light box!





In order to take some decent pictures you should place some lamps left and right of your box (and maybe one above it). That way you will be able to avoid shadows where you don't want them (or create some where you wish to).



Set-up with two lamps...



...and the result

**BUT BEWARE:** Even in times of LEDs and EU regulations dealing with the power of lamps, you must always remember that most lamps are producing heat when operating!

**Take care not to set your studio / family table / home on fire!**

With all types of lamps you will have to think of the temperature of the light source: Some bulbs are rather bluish (cold light) whereas others may appear rather yellowish (warm light). Should your setup not create the kind of tone you were looking for you can fix that in most image-editing apps. But whatever lamps you will be using, make sure you're using two matching ones.

Here's one picture I took, with the help of a lightbox and three lamps, for an article I wrote for our blog ([StuckInPlastic.com](http://StuckInPlastic.com)) some time ago:





Were the Women Of NASA (LEGO® Ideas #21312) the first toy photographers?

I'm hoping these tips will help or even inspire you to try some toy photography yourself. If you want to, please share your images with us by using the hashtag #SiPlightboxHBM on Instagram. And of course you're always welcome to follow us on our blog [www.stuckinplastic.com](http://www.stuckinplastic.com).

P.S. As mentioned before, the size of your lightbox depends on the size of your model, not the other way round. Should your model (maybe a MOC) be too big for the box then you know it's time to build a bigger box!

#





# Sand Green vs Pearl Gold Hotrods

*By Martin Redfern*

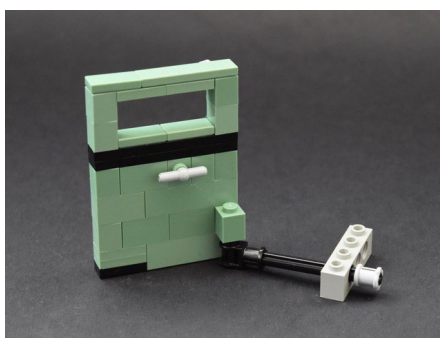
*Pictures by Martin Redfern*

## Sand Green Hotrod

As a lifelong fan of our beloved LEGO® brick and a huge fan of classic cars including custom cars such as 'hotrods', I was pleasantly surprised when a good friend of mine posted an image of a really cool custom car on his Facebook page. I was instantly inspired. The car in question was a heavily customised 1930's Model 'A' Ford. This sand green work of art had a cool name: 'Voodoo Psychosis' and belongs to a very well known custom car specialist known as Larry 'Voodoo' Grobe based in the United States.

One of the comments which grabbed my attention on my friend's Facebook page was 'Who is going to MOC this?' Without hesitation I took on the challenge. I do like a challenge and this was certainly going to be one! The colour sand green is not the easiest colour to work with, and as many avid LEGO® fans will know it is very limited in its availability. I knew I already had a few elements of this beautiful colour but not enough to build the whole car. After searching a myriad of resources such as Ebay and Bricklick, and due to the limited amount of elements/shapes available to me, many hours of juggling was undertaken to work around this issue.

As a rule I would usually start with a car's chassis, but this time I decided to start with the car's body instead. The body would have been a pretty straight forward build if hinges were available to me. (These are the times I wish LEGO® produced more in sand green.) A few years ago I built quite a few MOCs of VW vans – many with working features, which included a certain design for the hinges on the side doors. I decided I also wanted to incorporate this feature within these two builds as I did not want any gaps visible. This method is not the most stable, but is the best I can do with the limited amount of LEGO® available to me.



Side door design with hinges

Both engines on my hotrods are inspired and built in a similar way as the old Model Team sets. In particular the LEGO® Blue Fury (5541) hotrod set. The Sand Green Hotrod has four of the chrome curved pipes from the Model Team hotrod set and the rest are custom. Also, for some time now I have been brick-building my wheels on various builds (motorbikes etc.) and the same applies here. Using five pieces for the front (not including tyres) and eight on the rear (two tyres on the rear). I've been able to get as close as possible to what I want.



Parts of the front tyres



Parts of the rear tyres

The model includes many different features, but the interior is by far my personal favourite.





Sand Green Hotrod

## Pearl Gold Hotrod

Some time before I decided to build 'Voodoo Psychosis' I had wanted to build a hotrod in pearl gold, but again due to the limited availability of elements/shapes in this colour it was to be placed on the back burner. Fortunately for me, being a member of the Sheffield LUG, Kevin (Top Bloke) our esteemed leader was able to lay his hands on a load of 1x4 pearl gold tiles! Happy days!

Although the Pearl Gold Hotrod looks similar to the Sand Green Hotrod, I had to build the gold body using a different method. I used the well tried and tested SNOT method to build the sides and the doors, but aside from this method it is pretty much the same as the other. This gold car is still loosely based upon a 1930's Model 'A' Ford but with a few more extreme details such as its length and roof chop and oversized supercharged engine, again using many Model Team pieces.



Pearl Gold wheels

As with 'Voodoo Psychosis' I wanted to brick-build the wheels and tried various designs before deciding on using stock LEGO® items. Again the rear wheels use two tyres – the outers are from set 8880 (I'm still working on other designs). The interior is pretty much the same as the other model. The only custom chrome pieces used on this are the door handles and the 2x2 round bricks on the blowers. The rest is official LEGO®, again sourced from various Model Team sets.

Since building these I decided to contact Larry 'VooDoo' Grobe and send him some images of his beautiful car in LEGO® form, but I've still yet to hear back from him!

I am now in the process of searching for another cool hotrod to build :-)

Out of these two, my personal favourite would have to be the gold one, as I love the colour. The only downside is the model is not quite as stable as the other one.

#



Pearl Gold Hotrod



# Interviews

## Interview: LEGO® Friends

By HispaBrick Magazine®

Pictures by HispaBrick Magazine® and LEGO® System A/S

LEGO® Friends was launched in 2012. Since then, it has become in a great success, being actually a core theme of the LEGO® product range. We had the opportunity to chat with two designers of LEGO® Friends, to understand what's behind this huge success.

**HispaBrick Magazine®:** Can you please introduce yourselves?

I'm **Fenella Charity**. I'm the senior design manager for LEGO® Friends. I've been on the line for ten years this year. I was part of the original team developing what became LEGO® Friends. In that time I have been a designer making models and now my job is more to lead the team and give art direction and design direction on the models.

My name is **Ricardo Silva** and I'm from Portugal. I'm a Senior Designer in LEGO® Friends and I've been working on this theme for the past five years.

**HBM:** You say "what became Friends". How did Friends get started?

**FC:** The original brief was to create a line of toys that would appeal to girls that were not engaging in LEGO® at that point. We were very aware that there were (and are) girls buying LEGO® City, Star Wars, Ninjago; there are lots of lines that we offer that are interesting to girls, but there were a lot of the girls out there in the world were still not coming into LEGO®. We set out on a mission to create a line that would appeal to girls that didn't own LEGO® already. The Brief was to create a truly LEGO® and a truly girly experience. We developed the concept during four years and did a huge amount of research and we talked to parents and kids all over the world. That is also how we developed the minidoll and everything around the

theme, because we saw the need for it.

**HBM:** Before Friends there was Scala, Paradisa ... What makes Friends so different?

**FC:** I think it is all about the brief we were given, to make it truly LEGO® and truly girly. Obviously we had success with Scala and Clickits and other lines we have done, but LEGO® Friends has seen a different scale of success and that is because we still use the same system, the same bricks as we have always done and it fits into the same toy box as other LEGO®. In the past, with Belville and Scala especially, the scale was very different and we used bigger pieces. That wasn't necessarily a truly LEGO® experience.

**HBM:** Why is LEGO® city not sufficiently attractive for girls?

**FC:** That's an interesting question. Obviously, it is attractive to some girls and we see that with Friends and City you can combine things and they can live in this world together and kids will do that at home. For the target group that we were going after initially we made a line that was with the minifigure. We saw that the girls that wanted to play with LEGO® Friends wanted to reflect themselves onto the figure and the minifigure was slightly too far from reality for them. It was impossible for them to shrink down and become a Friend in the universe. That was a real eye-opener for us. We would have liked to make the whole Friends range with the minifigure – that would have been very straight-forward for LEGO® to do. We wouldn't have had to invest in the new minidoll. But the testing showed very clearly what we needed to do to recruit the new girls. The other thing we found during testing was the level of detail that we needed to create was really important. You can see we prioritise interior details and small build details where City may want to prioritise different play types in their models.





Comparison between the prototype and the real model of the set 41314 - Stephanie's House

**HBM:** And are the pastel colours also important?

**FC:** Obviously the colour palette is very different. I wouldn't necessarily say it's pastel, but it is very vibrant and bright and it is multi coloured. The six new colours[1] that we added in 2012 did have some pastel shades, but that was so we could create tone in tone in our sets. We would always use them together with a darker colour to create a light-dark contrast. (You can see in the models in front of us) we always make sure that we have classic LEGO® colours in the set as well, like red and yellow, and bright colours like lime green and warm yellow. It's important that we have a variety of colours in the sets.

**HBM:** Why is the minidoll so much less articulated than the standard minifig?

**FC:** That's really due to the prioritisation of realism as the most important thing. We worked as hard as we could to make the hip work.

**RS:** At the time we tested a lot of different figures and some of them had rotating hands and individually moving legs, but when you do that you need a certain amount of material around those elements. The figures needed to have larger limbs in order to achieve that kind of functionality and that wasn't appealing when we tested them. So, we had to go back and wasn't the arms a little more, to make them more elegant and realistic. Then we had to decide in which direction we wanted the clip of the hand. We realised that most of our accessories (more than 75%) were using the hand clip vertically, so we decided to do it that way. All the new accessories we have created until now for our minidoll can be used vertically and of course the minifigs can use them also.

**FC:** We had a lot of discussions about the hands. The minifig is quite abstract and it is OK that it doesn't look like a real person. It's fine to have a skin-coloured arm with a kind of sleeve at the end of the wrist. But for us it wasn't appealing. We needed to make it look a bit more natural and realistic. The hip function also required so much material around it that it wasn't possible. The studs on the bum couldn't be done with the geometry we needed for the figure.

**HBM:** Where did the names of the 5 original Friends come from?

**FC:** They were randomly picked. It's not as if anyone has a daughter called Olivia. The most important thing and what took the longest time was to get globally recognised names. Names that could work in China, in the US, Germany or Spain without too much trouble. We had a shortlist of names and we also had to do legal checks to see if there were any other brands using these names for their main characters. There are lots of things that narrowed the list down. There was also the consideration that names ending in a vowel sound very feminine and more appealing.

**HBM:** Why do the dolls have names, because there often aren't any specific names in other LEGO® themes?

**FC:** For us in LEGO® Friends it is because we are building a world that kids can relate to and that means that the characters are an entry point for them. We've built up the characters for the 5 Friends – we know who each one is and we know that all the kids that love our brand now relate to those characters in some way, whether it's one of them or all of them. It was important that there were five girls that represented a selection of society that could be an entry point for the consumers coming into LEGO® Friends.

**RS:** I think that the main reason was to make them relatable, so the kids could say "oh, Andrea; she's a friend of Olivia – my friend is also like that because she likes the same things". That way it is closer to reality and they feel they belong there. That's one of the things that girls really like. They like to belong to Heartlake City, to belong to this world. So the fact that the five Friends have a name is to make them closer to reality and to make the girls feel they are there, together with the main characters.

**HBM:** There was only one male character in the first series of LEGO® Friends: Olivia's dad. It was a completely female society. Now there are some more boys in Heartlake city. Has anything changed in your brief? Why have more boys been included?



**FC:** It was always intended that Heartlake City would be a fair representation of society. There were several reasons why we only had the dad in the first year. One of those that we simply had to establish this universe. The five Friends took a lot of focus there and we put them in a lot of different models. Also, in terms of new pieces we created a whole new figure platform. At that point we didn't have a boy torso – we hadn't had a chance to create that. But it was also something we consciously decided. The boy was very new when he came out and we didn't want to go all in with everything new straight away and so we introduced him in 2013. Now we have an increasing number of boy figures in our sets, but because the five friends are the core of the brand there will always be a bit more focus on those girl characters.

**RS:** The boys are not the main characters. It's just like with other girl characters in the theme. There are other friends besides this group of five, but they always come in like the boys do. If we need an additional character, we bring in a boy or a girl. They are a kind of "fillers" to make the story a bit bigger.

**HBM:** There's a much wider variety of kinds of builds in Friends than in City. While City brings out yet another police or fire station, Friends creates a much more complete cityscape. Is that something that comes from the designers or is that a demand from marketing?

**RS:** We need to remember that City also creates its products for kids and those kids really like to play the police and firemen and that's why it comes up so many times. Even so, City is also always experimenting new fields. Right now, there is Jungle Exploration and there is always something different. Of course they also have their classic play, but that's because the customers really want it. As for Friends, since the beginning we have always tried to bring new things and every year we brainstorm what should be the next place the girls want to go to. In these brainstorm sessions we always come up with new things. And with every new thing we evaluate and test it to see if it is strong enough. We did that with the amusement park and with the snow theme and we could see in the tests that the kids were really happy to have a fresh new idea. For us that's amazing and we love it, because it allows us to use our imagination and explore new things.

**FC:** There will be things that repeat (e.g. the swimming pool or the vet), because they are classic themes for our line, but I think we are also very lucky that we get to invest in things like architectural styles. Our consumers are looking for different things than City consumers. That variety comes from the fact that Heartlake City is a very rich and detailed universe. With Stephanie's House, for example, we could explore a new architectural style and still do a house. We know that a house is going to be a good product for the core city, and that's why we were able to add a lot of new detail.

**RS:** Answering the end of the question, the decisions end up being a combined effort. The designers start working and exploring models, but then we have to talk with marketing and see if there are good things that we can take out of it, and then we move forward.

**HBM:** Can you tell me a little more about the design process of a typical Friends set?

**RS:** This was the first take we had on Stephanie's house. We have been trying to bring up one of their houses every now and then. We've had Olivia's, we've had Emma's and now we have Stephanie's house. This was one of the first concept houses that we created.

**FC:** Normally we have a brainstorm, but we might also get a brief from marketing saying we need another house for this year, because Emma's house is not going to be on the shelf anymore. Then we would think about which character we would like to make the house for this year. In that process we might build on Mia's house and Andrea's house, but Stephanie's house would also be in the mix. Then we evaluate what different influences these five friends would have, where they live within the city. We start with references from the

Internet and references from our own experience sometimes. We define a colour palette. You can see that quite early on this is Stephanie's colour palette and we were quite sure from the beginning that her house should be these colours and should go with her personality.

**RS:** We also make sure that we have the details that belong to the character. We have the bunny that's one of her pets, we have the tennis racket inside and there are some more things that are related to her in the bedroom.



Five original LEGO® Friends characters

**FC:** You can also see that one of the briefs from me to the designers was that we wanted the architecture to look differently from what we had done before, in Olivia's house and Emma's house. One of the big innovations in that architecture was the windows. In this first model you can see we were using existing pieces from LEGO® City – not something we had used in LEGO® Friends before – but it already gives you an idea of how the windows can completely change the look of a model. As a result we realised that we really wanted this bay window at the front. But we felt that the windows were still very closed and a big selling point for us is that you should be able to see through the windows to the details inside. Then we started thinking about decorating the window so that it appeared to have a lot of frames, but it didn't actually. Of course that also helps simplifying the building experience a little bit, because it was getting a bit complicated.



First design of the bay window



In the second model you can see it is more of a Creator Expert build where we have used hinges to create the window and it is quite a complex build, which means you have to spend a lot of bricks to get the window to look the way we wanted. In the end we used a new frame that LEGO® City developed, making it a great building experience. So you can see the windows were an important point all through the process.



Second design of the bay window

The same happened with the swing. From early kids tests we could see that it was a really important function.

**RS:** Of course there were things that changed during the concept phase. We had a barbeque or even a pool on the top, but those were things that we had done before, so we could live without them, allowing us to bring something new. We

came up with a balcony in front of the house and of course we had the new staircase that you can see to the side. That is a new piece that we developed in Friends and we wanted to make the best use of it. This was the right moment to do it. We could use it in the house. It also hinges, which helps us to move things around and make it more active. It brought something new and fresh to this model.

**HBM:** It's a two-piece staircase. I always feel slightly uncomfortable when I see large pieces and think: "was that really necessary?"

**FC:** There's a balance of course. What is really important is that for the kids this is instant play. As adults we could spend quite some time building a beautiful elaborate staircase and we might do that in a Creator Expert model, but for our primary target group especially, this is such an easy way to create stairs and immediately provide play. You can see the same with our slides. We have these big slide pieces and they are one of the most popular pieces in our assortment because they create an instant function and provide instant play. Of course it's a balance and we don't want too many of those big pieces.

**HBM:** How important is the TV series to the brand?

**FC:** It is pretty important to the brand and, I think, as we move forward it gets more and more important. It is what creates this idea of this universe coming together. Also, it is a new



Fenella Charity and Ricardo Silva with the first (right) and the second prototype (left) of Stephanie's House



way to recruit kids that don't know about LEGO®. We've had quite some cases where kids had been watching the series on Netflix and then gone to the toy store and seen that it is a toy and have come into the universe in that way. Of course we have massive LEGO® fans out there, kids and adults alike, but there are lots of kids out there that don't really know we exist.

**RS:** We also work together with the people that are writing the TV series when we are building the model. Sometimes we just need to add little details into the models in order to make a clear connection with the TV series episodes.

**HBM:** Friends is much more rounded: the minidolls, the animals, even the builds. Does that make it more real?

**FC:** The curved aesthetic is definitely something that we want to continue because it is something that differentiates us from other lines in LEGO®. It makes us have a defined tone of voice.

**HBM:** Friends minidolls are now also being used in other themes – Elves, Disney Princess, Supergirl... Does the Friends team also work on that or are those separate design themes?

**FC:** The minidoll is supposed to be a foundational thing, not exclusively attached to Friends. Of course it is because we launched it first, but we see the minidolls as having lots of potential across all themes. Some of the original team members that worked on what became Friends went on to work on LEGO® Elves and Disney Princess and we share insights. I think the main thing there for us is how we differentiate. We have very different target groups within the business with the minidolls. Friends would appeal to a different kind of kids than Elves or Princess. We really try to make these product lines really diverse and try to differentiate them as much as we can.

**HBM:** How many elements can you create every year?

**RS:** We usually make new elements in case of need. If we are developing a theme and we see the opportunity to create a new element that we really need then we can do it. If we see that there is no need to create a new element then we don't.

**FC:** In the beginning we of course had a lot of new elements, because we had to create the minidoll and I think as the years go on we will be injecting them as necessary.

**RS:** We actually have a lot of really cool elements that we have developed in LEGO® Friends. I have a sample of them here.

**FC:** Quite often kids not necessarily realise that maybe Friends develops the animals or the scooter... One of the elements we are really proud of is the hot-dog bun. Angry Birds launched it before us, but we developed it.

**RS:** The same happened with the scooter. It was in a LEGO® Expert set (the Parisian Restaurant) before it appeared in a Friends set.

**FC:** Also the quarter tile, which we decorated as a water melon and a pie and now as a pizza. It also has been an awesome element to build details.

**RS:** Elements like these can be used across LEGO® and that is very good for us.

**FC:** Also the Chameleon – we developed it, but then Disney Princess had Pascal from Rapunzel and they used our piece. The same happened with the fox that was also used in Elves. Sometimes we also develop functional pieces. In the Amusement Park for example we had the drop tower and we created the piece that went with the pole.



Elements designed by the Friends team

**HBM:** The criticism has died down a bit since the start of Friends but there are still people saying that Friends is sexist. What would you say to those people?

**FC:** I don't really have anything to say to them, but I have a very strong feeling from all the work that we have done that we are really proud of our work and we feel it is the right thing for the consumers we are appealing to. At the end of the day when you do a kids test and see how excited they are about the product, then you know that you are doing something good.

**HBM:** Is LEGO® Friends proof that LEGO® is a toy for all genders?

**FC:** LEGO® has always been a toy for all genders.

**RS:** This is just another example of a LEGO® toy for all genders. Anyone can play with it. We could see this really well in the competition we had at the beginning of the year,

the LEGO® Friends designer competition. We asked the kids to build a place where the LEGO® Friends could go and hang out. The competition was open for two months and we expected to get around 10,000 entries. We ended up having 28,000 entries and this was a really amazing score for us. And an interesting thing about it is that we had thousands of entries from boys, so this ends up proving that LEGO® is for everyone.

[1] Lavender; Medium Lavender; Dark Azure; Medium Azure; Yellowish Green and Light Aqua.

#



Jetro de Château interviewing Fenella Charity and Ricardo Silva



Interior of the first prototype



Interior of the second prototype



# Interview: BriXtar

By HispaBrick Magazine®

Pictures by BriXtar

**HispaBrick Magazine®:** Can you tell us about yourselves?

**BriXtar:** I am Martin Krosstedt, father of two, boy and girl, five and nine years old and Jonathan Jehander is father of two boys, six and eight years, and we are the founders of BriXtar. We both live in Sweden, and in 2015 we started BriXtar parallel to our ordinary jobs with a dream to make it possible to work on this full time. Our friendship goes back to 2010 when we met and worked together within the financial service industry in Stockholm. Now, two and a half years after founding the project, we can both dedicate ourselves to BriXtar and focus on our vision and live our dream.

**HBM:** How big is the BriXtar team?

**BX:** Actually quite big – maybe 40-50 people. We have worked closely for the last year and a half with many people from the Swedish AFOL community and even from abroad to help us build BriXtar. So of course we see them as a part of the BriXtar team. But if you look at fully employed staff and advisors we count nine people.



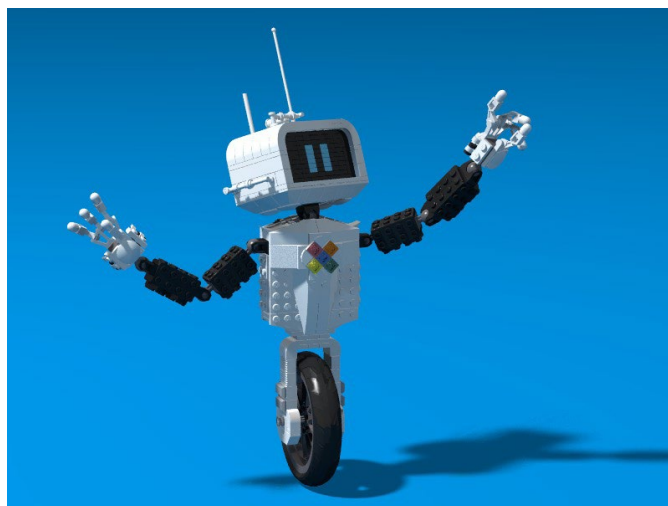
The BriXtar team

**HBM:** What is BriXtar?

**BX:** BriXtar is a social network, an app, created for LEGO® lovers by LEGO® lovers and a tool that helps you get the most of your bricks and thereby contribute to a climate-friendly building experience.

On BriXtar we don't primarily consider the brick to be a tool for playing in the traditional sense. We rather see the brick as a tool for creating art.

There are so many talented AFOLs all around the world, using the brick to create the most awesome MOCs. That is impressive and amazing and we want to give them the credibility that they truly deserve. We want to put their MOCs into the spotlight and show their awesomeness and make them available for the next generation. We want kids and dedicated parents to get the chance to be inspired by the art created by AFOLs and learn from them to become better builders themselves.



On BriXtar you can share the instructions for your MOCs with our 3D manual so that other users can build them, and we already have several MOCs on BriXtar that have been very popular with a wider audience. Imagine the feeling when somebody loves the MOCs you made so much that they actually spend their time building them! That is a great feeling and we have built this deeper feedback into the app. Besides sharing your MOCs you can create your digital library of bricks on BriXtar in order to match your bricks to those required for MOCs posted in the app. We have also developed a challenge mode where you can make tailor-made challenges and invite friends and other BriXtar members to compete, and we also arrange different building competitions where we challenge your building skills and imagination. In all this we work closely with the community which gives us great input, and several new features will be launched early next year. We don't want to reveal too much at this point but I can tell you that there will be a lot of awesome stuff.

**HBM:** Can you tell us little more about BriXtar 3D?

**BX:** BriXtar 3D is our own 3D instruction renderer that generates a manual from an LDR file to be uploaded together with the MOC. The 3D manual enhances the building experience for those who build and saves time for those who make the digital MOC since they don't have to make instructions. With BriXtar 3D on your smartphone or tablet you can play the whole manual from the first to last brick. Build step by step, rotate the the MOC, zoom in and out and easily see where the bricks attach. With the 3D manual you can learn new building techniques by studying the MOCs from different angles. It's a totally new experience.



**HBM:** Can you tell us the background story about BriXtar?

**BX:** As with many other AFOLs, we can thank our children for bringing us back to LEGO®. Our dream started some years back when we saw how the pile of LEGO® we had gathered constantly grew. We saw the potential that existed in all these bricks – everything we could build if only we had the skills and the imagination. Huge changes had taken place in the world of LEGO® since we were kids. More variations of bricks had increased the number of options for what we could build. At that time we first came in contact with the AFOL community at an exhibition and we were astonished by what they created with LEGO® as their toolbox. We saw a new generation grasping this opportunity with their hands and minds, and we asked ourselves what if we could create a community for people who share the same passion – regardless of gender and age.



**HBM:** Are you planning any collaborations with current AFOL communities?

**BX:** There are many great platforms today where AFOLs gather, and we see possibilities where we can collaborate to enhance the experience for our members and vice versa. As we speak, we are actually announcing a collaboration with Brickset.

**HBM:** What does this collaboration mean?

**BX:** We start out with BriXtar and Brickset now having a synchronized updated set and parts list. BriXtar members will also get access to all LEGO® set data from Brickset direct in the app and all Brickset members can easily import their digital library of bricks into the BriXtar app to see what they can build.

**HBM:** The app is for all LEGO® lovers. Do you see any problems addressing such a wide range?

**BX:** We see people of all ages using BriXtar and we have had great feedback from users regarding the user experience and members decide who they want to follow. But the most important thing for us is to make BriXtar safe for children, which we have done with a special child account for children under 13 years. Our next goal is to attract more female AFOLs to BriXtar – there are so many talented female builders out there.



Release Party in November

**HBM:** You mentioned accounts for children. How does that work?

**BX:** We think of BriXtar as an inspirational source that unites all people who share the passion for colourful plastic bricks. We, the founders of BriXtar, are dedicated parents. We want our kids to be inspired by all incredibly talented AFOLs and the MOCs they create. Our kids love LEGO® and hopefully we will be able to keep their interest in the brick for many years further.

But we cannot be clear enough about how important our kids' safety is for us. We want parents to feel secure and safe when their kids are using BriXtar. The child account is connected to a head account for which the parent is in charge. As long as the child is under 13 years of age it is up to the parent to decide what functionalities the child is ready for. BriXtar is a social platform but as default all possibilities of being 'social' on the platform are turned off. We have also decided to remove some functionalities that we don't consider suitable for children. They are not allowed to participate in challenges with voting systems for example. All of this is to achieve maximal security. We also made sure that BriXtar is compliant with all relevant guidelines and legislations, such as the Children's Online Privacy Protection Act (COPPA).

**HBM:** How do you distinguish yourself from other platforms?

**BX:** There are so many good platforms for AFOLs out there, but the feedback we have received from AFOLs we have been talking to is that these platforms haven't really satisfied their needs. Many AFOLs are posting their MOCs on Flickr and Instagram but there is not that much more to do on these platforms beyond posting pictures. On BriXtar we are focusing on developing features which are adapted to suit AFOLs and LEGO® enthusiasts. When we released BriXtar globally in November we got the feedback that we are onto something really unique. But we have just started our journey and we still have a lot of work to do. We realize that we need to do things ten times better to attract people to BriXtar, and we are working close to our community in order to achieve that. As said, we have a lot of features going on that we believe can truly make life better for the global AFOL community. The positive feedback we get every day from our users gives us the energy and will to succeed.

**HBM:** What are your future plans?

**BX:** We want to make BriXtar available for everyone, and launched the app globally at the beginning of November on App Store and Google Play. Apart from spreading the awareness of BriXtar, we have a lot of interesting features coming up for 2018. One is to encourage our members to develop their building skills through gamification, so stay tuned.



**HBM:** Since you are a company, how will this affect the users?

**BX:** Being a company enables us to invest in creating value for the users. It is not enough to be a little bit better than current solutions, we have to be ten times better to validate our existence. We do it by continuously developing new features with our community.

**HBM:** In November you announced that Swedish former Olympic gold medalist in High jump Stefan Holm invested in BriXtar. How did this come about?

**BX:** We approached Stefan Holm early this summer through a common friend and worked together during our soft launch at 'Klossfestivalen' in Örebro, Sweden. We found a common ground and one thing led to another resulting in Stefan now being a part of BriXtar. Stefan is a perfect partner for us. He shares our passion for the LEGO® brick as a tool for creativity, and our values concerning dedicated parenthood, sustainability and the willingness to bring more into our community of children and AFOLs. For all who want to see Stefan's creativity, you can find him on BriXtar under his username @scholm.



Klossfestivalen in July



Klossfestivalen in July

**HBM:** Who builds most, what do you prefer building, and what are two tips for new BriXtar members?

**BX (Martin):** I would say Jonathan builds the most of us two. I like the challenge in building alternative models from sets and there is a lot inspiration for alternative builds on BriXtar. I also get great satisfaction building other users' MOCs with 3D instructions where I have 50-70% of the bricks. This challenges me to find other solutions, and when I'm done it's very satisfying. One tip is to take the time to register your sets in the app. The more sets you register, the more buildable MOCs you can find. If you have your set inventory on Brickset then you can easily import this into BriXtar and see everything you can actually build.

**BX (Jonathan):** There are so many MOCs on BriXtar that I would like to build – MOCs that are not only visibly beautiful but which also include a lot of challenging building techniques which are rarely seen in original sets. My best tip is to use BriXtar as a source of inspiration to enhance your own building skills. I build a lot today, but I am still a rookie compared to many of our users. With the 3D instructions I am able to observe how other MOCs are constructed which has enabled me to become a much more skilled builder myself.



MOCs by Nkubate to the BriXbox

**HBM:** Is there any special moment you remember from the last two and a half years?

**BX (Martin):** Yes, right at the beginning. We wanted to see how difficult it was and how long it would take to sort out 600 bricks from a pile of LEGO® bricks. We decided to take my daughters Dolphin Cruiser (41015-1) and tear it apart, mix it with a pile of bricks, sort it out and rebuild. We had not been building for let's say 20 years so we were a little bit rusty. We started at 11pm (which I don't recommend) when I sneaked into my daughter's room and took the Dolphin Cruiser. After tearing it apart we had seven hours to sort out the bricks and rebuild it. It had to be finished and put back in the same place before she woke up. We managed it in just three hours, but we don't recommend starting at 11pm. ☺

**BX (Jonathan):** I have so many memories from the last two and a half years but I'd have to say that my strongest ones are all the new friends I have received as a result of BriXtar. In this time I have had the honor of getting to know a large part of the AFOL community in Sweden, and more and more AFOLs even outside Sweden. They are humble, nice people who have offered so much from themselves to help BriXtar as a company, and also me as AFOL and individual. For that I am deeply grateful.

#



# Tutorials



## 'Traffic Light' with the Creative Toolbox

*By Sanjay Seshan and Arvind Seshan*

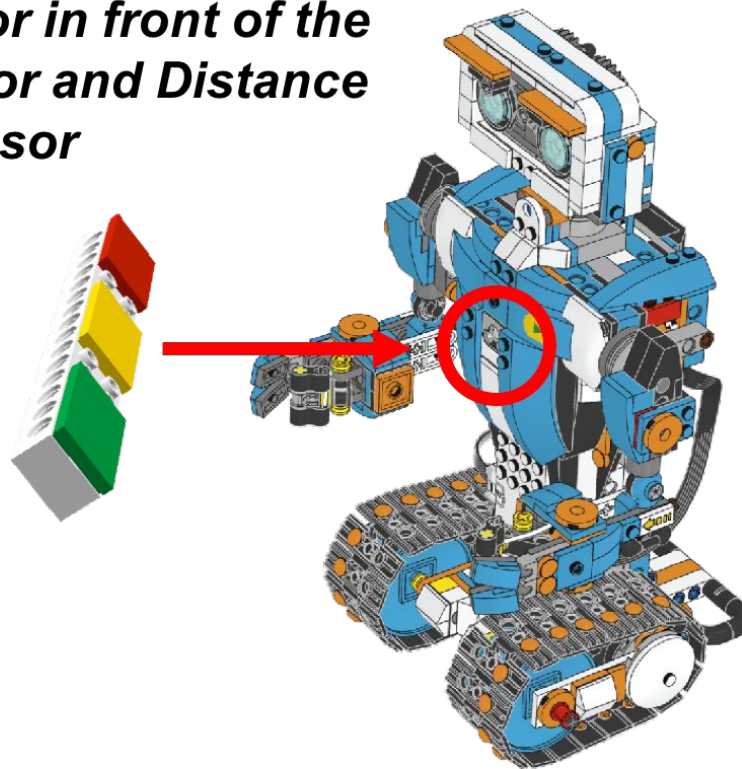
### About the Authors

Sanjay and Arvind, or the Seshan Brothers, are the founders of [EV3Lessons.com](http://EV3Lessons.com), a popular site for learning to program with MINDSTORMS. They enjoy teaching programming and sharing their creations with others.

### Introduction

The Boost programming environment is a hidden gem. You can start with the built-in models and their programs, while the Creative Canvas allows you to explore further and make highly sophisticated programs.

***Place each traffic light color in front of the Color and Distance Sensor***



### Lesson Objective

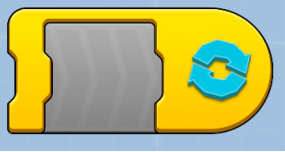
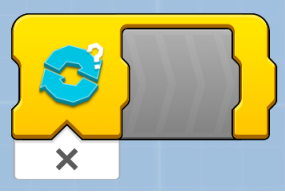
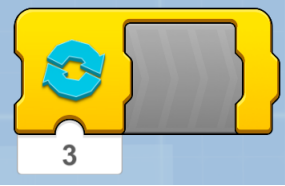
Boost lets you learn many programming concepts while having fun with the built-in models.

In this lesson, you use Vernie to explore additional coding concepts. You will program Vernie to follow instructions based on the color of a traffic light. Vernie will move forward when the color sensor detects green, slow down when it identifies yellow, and stop when it detects red. In addition, Vernie will say out loud the color he detected. You will be programming using the Creative Canvas area of the App.



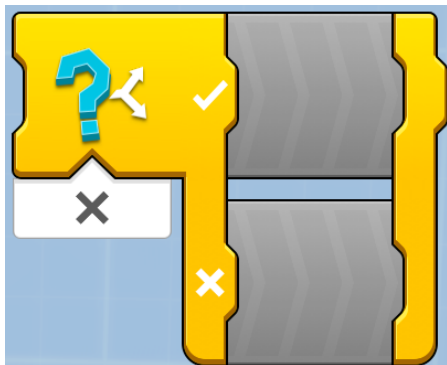
## What is a loop?

A loop lets you repeat any code as many times as you want to. Boost has three Loop Blocks which can be found in the Yellow Flow Palette.

This is a Loop Forever Block. It will run your code forever.	
This is a Loop While True Block. It will run your code while that condition is true. For example, if you want Vernie to move forward until he sees red, the condition would be "does not see red".	
This is a Loop For Count Block. It will run your code a certain number of times. For example, you might want Vernie to turn exactly three times.	

In this lesson, we will use the Loop Forever Block.

## What is a switch?

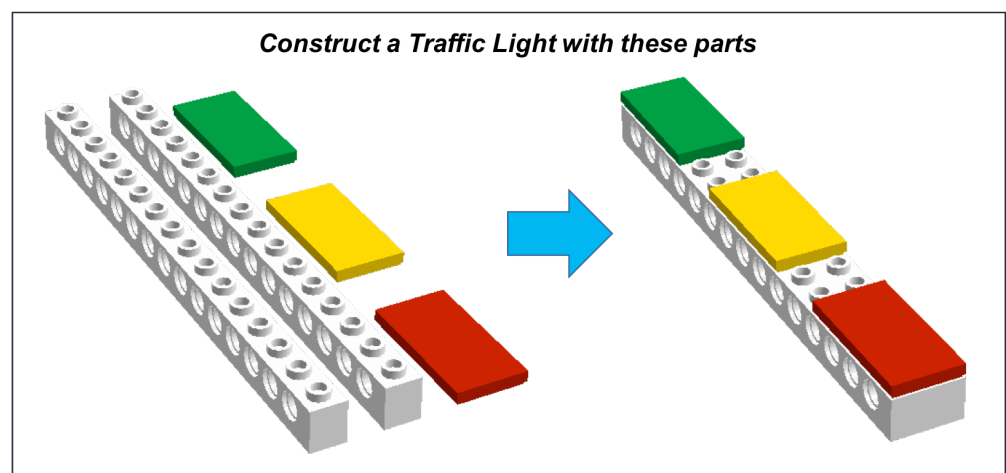


A Switch Block allows you to decide between different actions. The block can be found in the Yellow Flow Palette. In Boost, you can choose between two actions at a time using the Switch Block. If the condition is true, the top sequence is executed. Otherwise, the bottom sequence is executed. The Switch Block is like the answer to a Yes/No question.

In this lesson, we will have to use the Switch Block to choose between three conditions: whether Vernie sees a Red Light, a Yellow Light or a Green Light. Since the Boost Switch Block does not allow for three conditions, you will need to program one decision at a time using switches inside switches. The first switch will check to see if Vernie sees Red and then make a decision. If Vernie does not see Red, then we use a second switch to ask if Vernie sees Yellow. If not, we use a third switch to ask if Vernie sees Green.


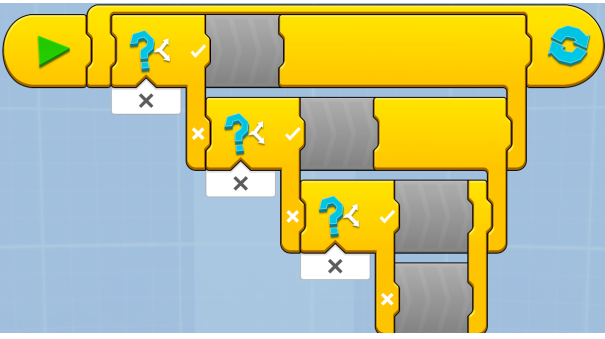
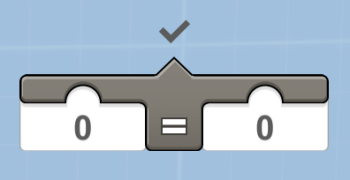
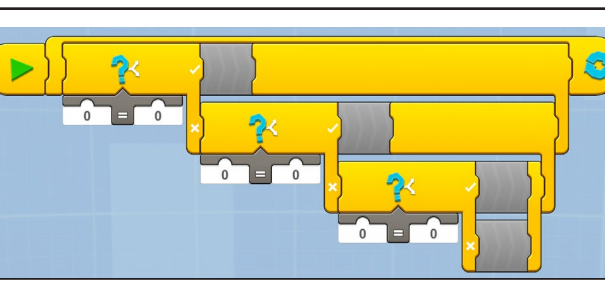

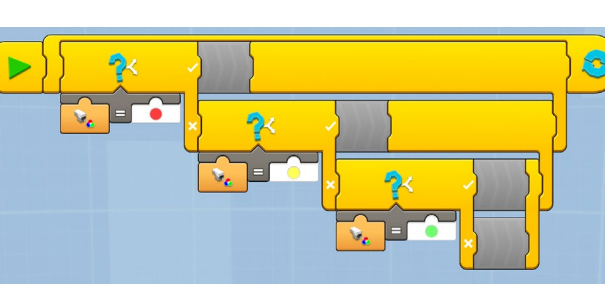
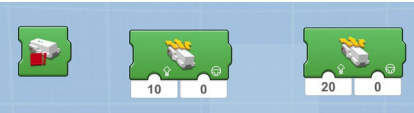
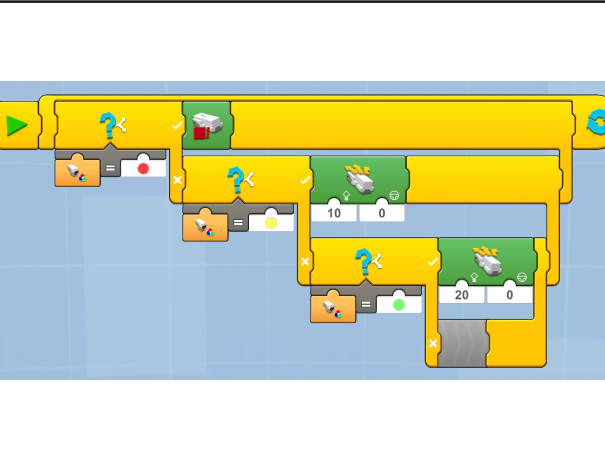
## Robot Design

Follow the build instruction in the Boost App to construct Vernie. In addition, construct a traffic light using pieces leftover after constructing Vernie



## Programming Steps

Go to the Creative Canvas Area of the Boost App.

<p><b>Step 1:</b> Drag in a Start Block from the Yellow Palette</p> <p><b>Step 2:</b> Drag in a Loop Forever Block</p> <p><b>Step 3:</b> Drag in a Switch Block inside the Loop Forever Block</p>	
<p><b>Step 4:</b> Drag a Switch Block inside the lower half (false 'x' condition) on the Switch Block. Repeat until you have three Switch Blocks as in the image shown (one for each case: Red Light, Yellow Light and Green Light as explained above)</p>	
<p><b>Step 5:</b> From the White Math Pallet, select the Equal To Comparison Block.</p>  <p>Place one in each of the Switch Blocks.</p>	
<p><b>Step 6:</b> From the Orange Sensor Palette, add in a Read Color Sensor Block into each condition in Step 5.</p>  <p>On the right side, change the parameter to equal each of the colors (Red, Yellow and Green)</p>	
<p><b>Step 7:</b> In each of the Switches, add the appropriate Green Movement Block to stop the motors:</p> <p><u>Red Light</u>: Use the Motor Stop Block</p> <p><u>Yellow Light</u>: Use the Green Motor Block and set power = 10</p> <p><u>Green Light</u>: Use the Green Motor Block and set power = 20</p>  <p>Red      Yellow      Green</p>	



**Step 8:** Time to create some fun sounds to match the traffic light colors. To make custom sounds, select the Violet Microphone Pallet. Click on the '+' to get started. Record 'Red'. Click on the icon the shape of the Block to create an icon. Click on the arrow shape to pick direction icons. Pick the icon with a red hand for your recording of the word 'Red'.

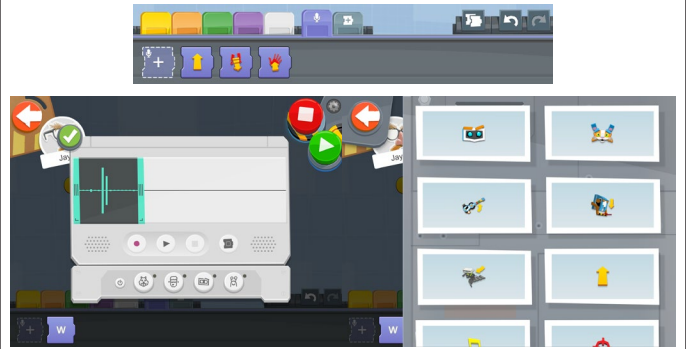
Repeat this process to create a custom sound for 'Yellow' and 'Green'. Pick a different icon each time.



Green

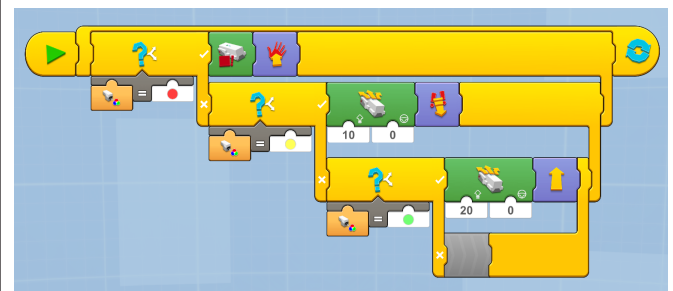
Yellow

Red



**Step 9:** From the Violet Microphone Pallet, select the three sounds you created and insert them into each of the switches: Red, Yellow and Green.

**Step 10:** Now you are ready to play with Vernie. Hit play. Show each color of the Traffic Light in front of Vernie's Color and Distance Sensor.



#



## Bricktastic

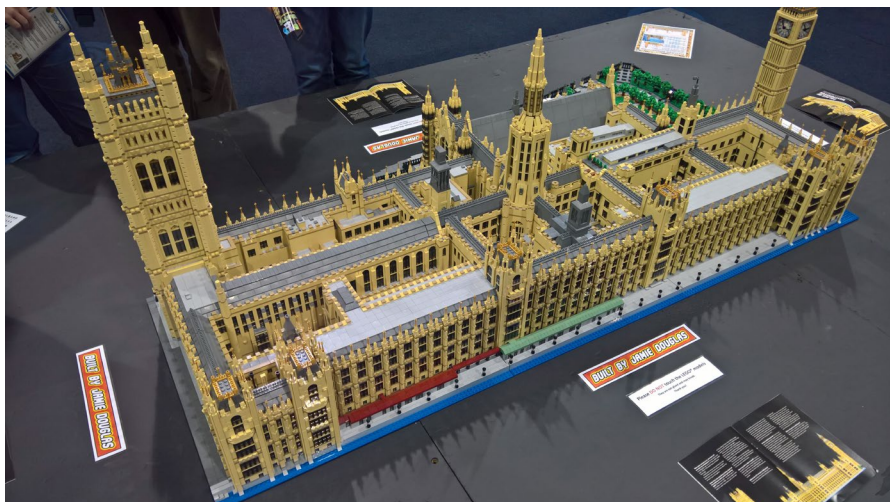
By Eduard Petrač



It's always difficult to choose from among the many AFOL-driven events which one to visit and make plans for. Checking out the community and reaching out to them always helps. This time, after hearing only great things, our choice fell upon 'Bricktastic' in Manchester, UK.

The event took place in a building with architectural and historic value – Manchester Central – the former Manchester Central Railway Station. It was a special feeling going through the parking lot, which was once used as a train platform; and in some parts of the venue you could sense the history in the walls themselves.

This was the third edition of Bricktastic and it's proving with the years to be a perfect event for every LEGO-loving family or enthusiast. As organisers, 'Fairy Bricks' presented a feast for our senses. We were able to enjoy some of the show stoppers – Jamie Douglas premiered his 'Palace of Westminster' which is absolutely amazing! Brick to the Past created a huge display representing 'The Jacobite Risings'. The space crew made a 'Moonbase Display', and we also appreciated the great looking Steampunk machinery by Rod Gillies, the 'Wacky Racers' by Martin Redfern, and some more great space stuff by Luc Byard. With so much variety in themes it was pretty difficult to determine which had the biggest crowd.











Also, Bright Bricks presented some of their great displays, including 'The Flying Scotsman' and a range of animals.

There were quite a few brick pits where anyone could let their imagination take a hold for a few hours. There was also a special room for Mindstorms® where everyone could learn a bit about programming and making the robots 'go'

With quite a few retailers present there was a chance of getting hold of some retired LEGO® sets, custom LEGO® minifigures, accessories of all sorts, and other LEGO® merchandise.

One of the attractions was a huge mosaic being built by the public. It was quite a thrill to see it coming to life with all the little hands working on small modules to collectively create something huge.

We musn't forget to mention that all the money raised at the event went to the charity 'Fairy Bricks' who give LEGO® to children in hospitals. Of course, each child that attended the event received a small LEGO® gift.

The AFOL evening was a time of fun and games with the traditional Bingo and quiz conducted by Rod Gillies. It was also a chance to enjoy a proper English curry and refreshments from the hotel bar.

What I've noticed and experienced during Bricktastic is that the public is more willing to engage with the exhibitors about their displays. Possibly the absence of a language barrier helped, but still, noticing this with most of the exhibitors it felt more rewarding to be able to explain our ideas and displays. And what is really amazing is the chance to be a part of an event that brings a happy face to more than just the public, by also helping children in hospitals.

#

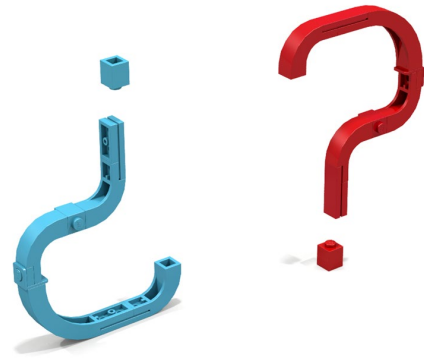




# BRICK QUIZ STRIKES BACK

By Janos Roemer

We hope you enjoyed the first volume of our LEGO-related quiz in the previous issue of Hispabrick Magazine. Are you ready for the next selection of questions from the contest organized several years ago by Croatian LUG Kockice? How many questions can you answer correctly without the help of your friend Google?



1.

*In 1952, the development of LEGO® bricks was made possible by what vehicle?*

- a) lokomotive
- b) bus
- c) tractor

2.

*In which other theme can you find the two robot companions from Star Wars?*

- a) in Harry Potter
- b) in Indiana Jones
- c) in Batman

3.

*What does the first short-legged minifig control?*

- a) the castle
- b) the force
- c) the ball

4.

*The LEGO® logo was compared to what food?*

- a) sausage
- b) hamburger
- c) chips

5.

*Who represents the very opposite of LEGO's philosophy of fun and play?*

- a) Ogel
- b) Radia
- c) Ice Drone

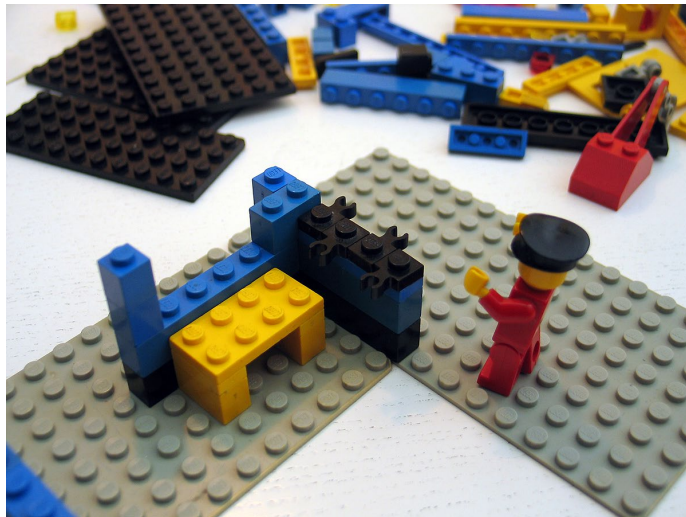
6.

Odd one out: who does not belong in the set?



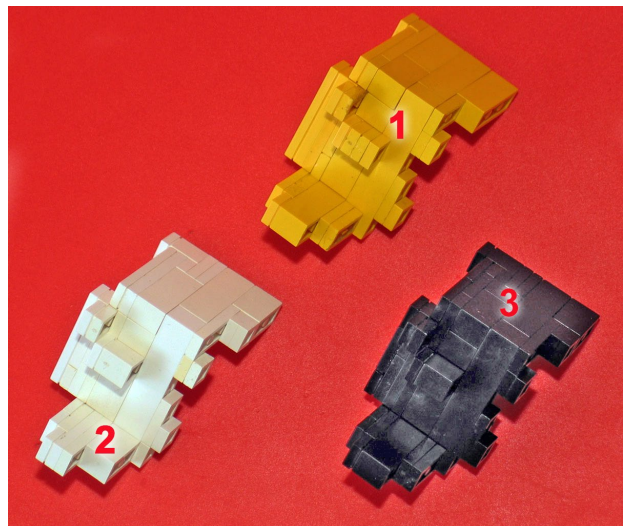
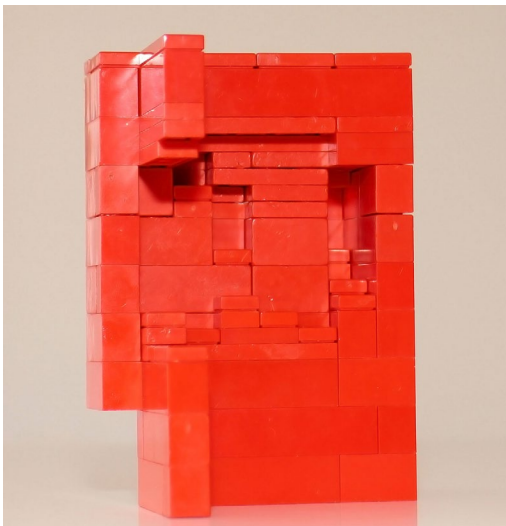
7.

What novelty is the minifig admiring in set 6363?



8.

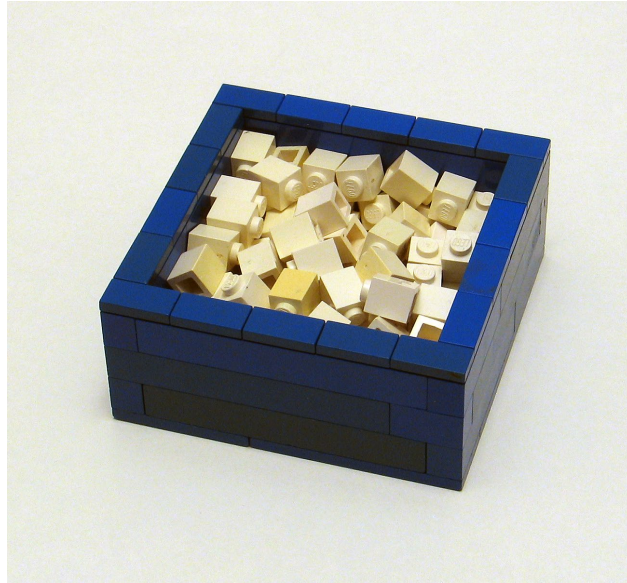
Solve the puzzle! Which block fell off the old monument?





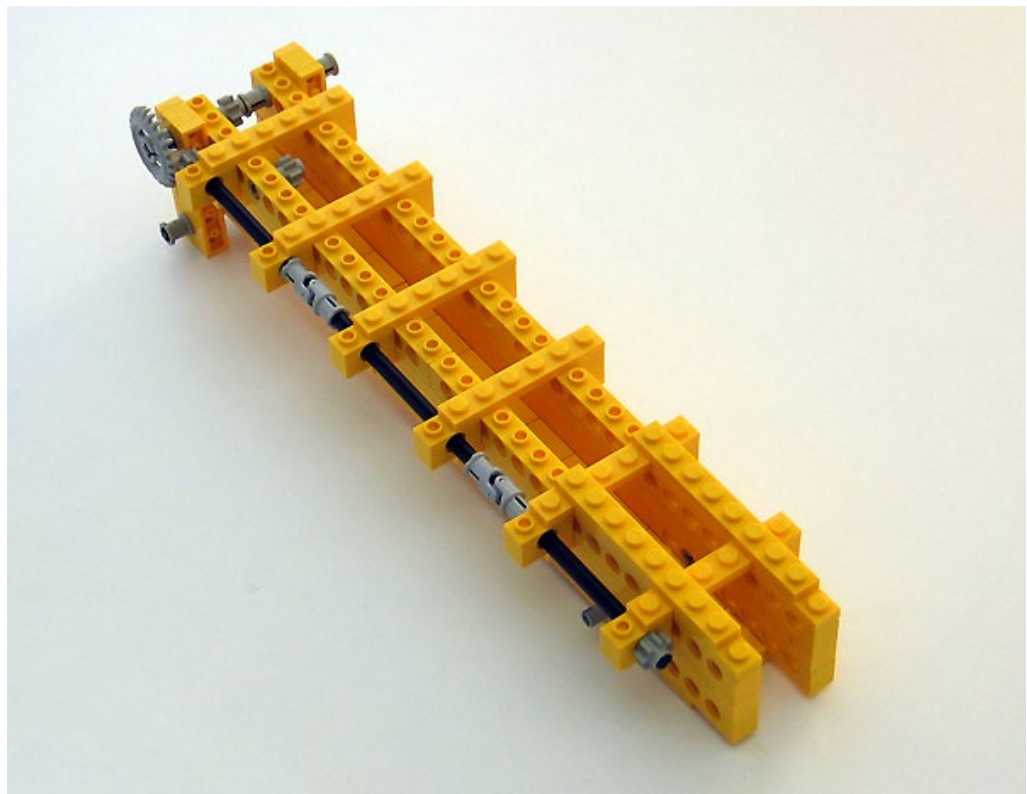
9.

*Estimate the number! How many 1x1s are in the box?*



10.

*Where is this assembly from? What could not be found in the original set?*



The correct answers can be found on page 61

# Bodylicious!

## Minidolls vs. Minifigures

By Jasna Miklin

Let's say you want to build a LEGO® avatar. And I'm sure you do, because, why wouldn't you? Do you choose the minidolls or the minifigures? How do you combine the mini's pieces to make a satisfying entity?

The basic assembly of the dolls and the figs is the same. They are both constructed using legs, a torso piece with arms and hands, and a head. Adding a headwear item to the mini is advisable, but optional, so we won't cover it here. We'll also focus only on the human-like minis.



A quick note, just in case you didn't know: the doll and figure parts don't mingle. At all. There's only one exception to this rule and we'll cover it in the 'Head On' article in the next issue. So, when you're assembling a minifigure, you can freely put all the doll parts away.





Both minis come in several skin colors. The minifigures have yellow skin in the majority of the LEGO® original themes and have real-life human skin tones in the licensed sets. And by 'real-life' I also mean all of the superhero, mutant, alien, robotic and fantastic hues.

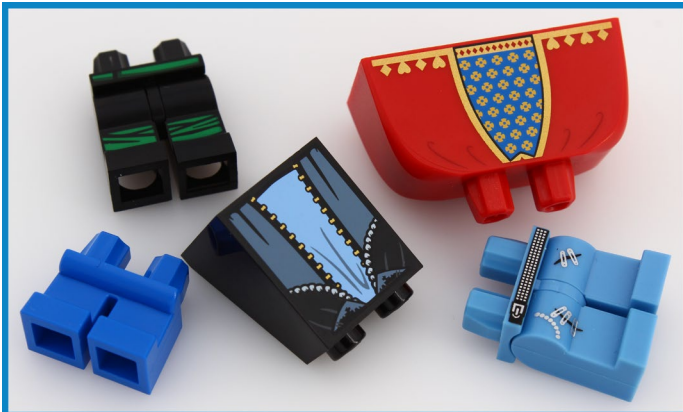
The minidolls use the lifelike complexions in all of their themes. Again, by 'lifelike' I mean any color the character needs the doll to be.



All these skin tones add variety to your pool of options, but they have their downsides as well. You'll need to keep in mind that different skin colors look displeasing when used on a single mini. Except if that's the effect you are looking for – then go ahead! I won't stop you.

There are still no points awarded for either side yet, because they have been too similar so far. To see where the minis really shine, we'll need to take a closer look at the figs and the dolls separately.

When choosing a legs piece for a minifigure, you have the following options in regards to the mold: the standard legs, the short legs, the long skirt and the ballgown. The last three contain no movable parts. The ballgown is the same height as the standard legs, the short legs are shorter and the long skirt is longer. The skirt attaches to the torso only with the help of studs. That is why the skirt is sometimes inadequate for play – the figs look much taller and the torso falls off easily.



Basically, in nearly all cases, you should go with the standard legs and just choose a matching print. The printed-on skirts are not very believable, but you can individually swap the legs and hip pieces. It's not advisable to do this because the joints may never be the same again, but it can be done and that earns the minifigures their first point today!



The minifigure torso comes in only one shape, but with an abundance of prints. Some are gender specific and some are gender neutral. But that's not the end of the possible tweaking. You can also swap their arms and hands around to fine-tune the look you are going for. Again, don't do this if you can avoid it – the figs simply don't like it. Nevertheless, the minifigures win two more points with this, bringing the overall result to 3:0 for the figs.



But this result doesn't yet include the dolls' strengths in tailoring the perfect avatar.

Minidolls wear full length trousers, baggy trousers, two kinds of cropped trousers, shorts, short skirts, double layered short skirts, wrapped skirts, two kinds of asymmetric layered skirts, ankle long skirts, full length skirts and ballgowns. All of them are the same height and connect with the torso piece in the same way. Such consistency earns the dolls their first point. And they get a second one for having 3D clothes, because the mold conveys much more meaning than a print alone.



But the variety of designs doesn't stop at the waist line. The dolls' torso pieces come in a total of four molds – two for each gender, a smaller- and a bigger-chested one. The male buffed-up torso piece is slightly taller than the rest, which makes it that more believable. This realistic assortment gets the dolls their final point, ending this battle in a 3:3 tie.



What does that mean for your avatar? Should you use the figs or the dolls? It means that both have their weaknesses and strengths: the figs have interchangeable parts, while the dolls express themselves through form and print.

Thus, you should simply choose the mini you prefer.

The Minidolls vs. Minifigures series is also a YouTube playlist. The Bodylicious video can be found [here](#).

In the first battle, that of size, the dolls won with a score of 3:1, so the total result so far is 6:4, but there are still two more battles to be fought before we can judge the outcome of this war.

#



# LEGO® Architecture

By Iva Pavlič

LEGO® and architecture have always been connected. Many architects have built their first buildings out of LEGO® bricks and played with shapes and colours. LEGO® Town or City has had buildings following contemporary trends, but it was not until 2007 that LEGO® started the Advanced Models series, which contained recognizable buildings such as the Taj Mahal built from thousands of bricks. They may seem like the predecessors of LEGO® Architecture, but they were designed in a different way. Sets with such a large part count tended to be realistic in terms of shapes and details, while Architecture sets capture the essence or main features of a building in as small a number of bricks as possible.

The LEGO® Architecture series started with Brickstructures in 2008, followed by Landmark and Architect subthemes. Five years later the 21050 Architecture Studio was launched. Its idea was different from that of the other sets, which were meant to be built and displayed. Architecture Studio contains 1210 pieces, mostly white with a few transparent exceptions, and it explores the architectural concepts of famous buildings with the help of a 272-page booklet, which meant it was meant to be rebuilt over and over again.

A new series emerged in 2016 – the Skylines – groups of several buildings characteristic of Venice, New York, Berlin... From a simple line, they transformed into three-dimensional compositions. In Sydney the Opera breaks the line, while in London the Eye is in the second row.

You can easily tell LEGO® Architecture apart from the other sets just by looking at the boxes: black with white letters and a single picture on the front, they are very elegant and stronger than the others. The biggest con is that their contents do not always justify their size.

The part count ranges from 57 up to Robie House's 2276, but the average is around 500. Each of the sets contains a black tile with the building's name. The building instructions are smaller than usual, printed on thicker and shinier paper, and are also black with white letters. The booklets contain the basic information and a description, along with photographs of the real building and its features.



## 21002: Empire State Building, 2009.



The Empire State Building is a skyscraper built in 1931 in New York. Back then, the footprint of a building was determined by the surface of the land it was built on, in order to ensure enough air and sun in the city's streets. That is why this art deco skyscraper has a distinctive shape – the upper floors are smaller in footprint, making the building shrink towards the top, since the height was limited only by the day's technology. Although there was no such law outside of New York, the style spread over the globe, wherever skyscrapers were built in the 1920s and '30s.

The model is built using bricks and tiles, and parts of it are inset by half a stud using jumpers. This technique and the monochromatic colour scheme emphasise the shape of the sturdy and stable 26cm tall model. Just like the real skyscraper, the model is topped by an antenna, which is the reason why the skyscraper 'stretched' to 443.2m, becoming the world's tallest building. It kept the title for 36 years, until 1967 when the Ostankino Tower was built in Moscow.

### 21003: Seattle Space Needle, 2009.

The Space Needle is an observation tower in Seattle, built for the 1962 World's Fair and designed as a tripod with a central pillar, making it sturdy and highly resistant to winds and earthquakes. The Skycity restaurant sits at a height of 150m and rotates like a flying saucer, completing a full turn every 47 minutes. The building is 158m tall, while the LEGO® model stands 22.2cm tall.

The Space Needle is the theme's smallest set, with only 57 bricks, but no set is more surprising in its parts selection: they are mostly Technic and all light bluish grey, apart from the black tiles in the base. The build is pretty simple and fast, but there is something unusual here as well – the 160mm lengths of hose need to be cut to 133 mm. They are inserted into connectors at the base and under the restaurant and further secured by a pulley (4185). This technique produces the characteristic tripod with bent legs which makes the model as solid and stable as the real building. The rotating restaurant is built from two simple radar dishes (3960) between which is a gear (3649), and it sits on a pillar made of axles and connectors. Smaller dishes and an antenna finish the top.

It may be the smallest, but it is also the most unusual and visually most interesting set of the theme. Although it is just a display piece, it begs you to fiddle with it, take it apart and put the hoses and gears back in place.



### 21011: Brandenburg Gate, 2011.

The Brandenburg Gate is a triumphal archway built in 1791 in Berlin. On each side it has six columns, forming five passages. Above them is a massive cornice on top of which sits a quadriga – a four-horse chariot ridden by the goddess of victory. In 1868 a wing with more columns was added to each side.

The massive doric columns on the model are built out of tan round bricks and tiles. The frieze, built using round and regular plates in two rows, is the same footprint as the gate itself. On top of this is the cornice, one stud wider, thanks to the use of jumpers. The quadriga is a fantastic combination of a travis brick (4733) with a round plate on top, and the horses are grey taps (4599b).

The wings are tan bricks and fences, while their roof is a bit problematic: it is built out of sand green cheese slopes. Although the corners are well built, the gables are not – the top of the lower slope is taller than the bottom of the upper slope, which gives the roof a 'spiky' look.





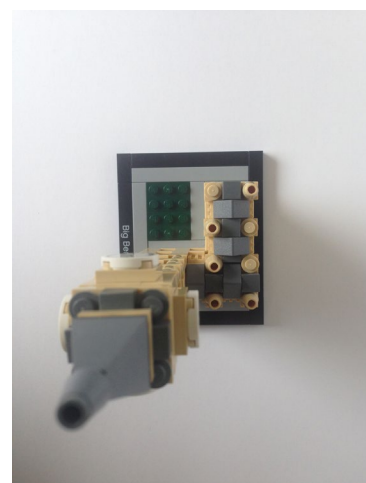
### 21013: Big Ben, 2012.



Big Ben is actually the bell, although the full tower is also known as Big Ben. It was built in 1859 in the north-western part of the Palace of Westminster in London. It was built in the neo-Gothic style. The lower 61 metres are built out of brick and covered in stone, whereas the upper part of the tower is made of cast iron. The total height is 96m and the model is 19.4cm tall.

Most of the model is built using the SNOT technique: grille tiles held onto travis bricks and framed by round bricks and tiles. This way the grooves nicely represent the elongated windows of the tower and the palace next to which it stands. This is not compromised by the 'floors' built out of plates, probably thanks to the monochromatic colour scheme. The same building technique works surprisingly well for the concave corner of the palace. The roof of the palace is built out of alternating dark bluish grey double slopes and 1x1 tiles. Combined with tan

round plates, they emphasise the Gothic style on the edges of the roof. This set's weakest link is the clock. It protrudes out of the tower by two plates and the standard black and white printed clock face just doesn't cut it here. Perhaps the most elegant part of the set is the top of the tower, with its tan and dark bluish grey tiles, plates and round plates topped off by a quadruple 2x2x2 slope (3688) and a 1x1 cone.

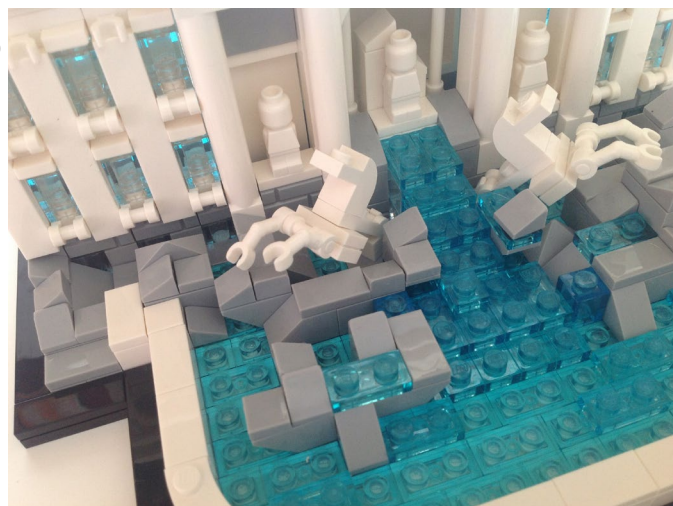


### 21020: Trevi Fountain, 2014.

The construction of the Trevi Fountain was finished in 1762. Its backdrop is the Palazzo Poli, with massive Corinthian columns which stretch over two storeys. In the middle is a triumphal arch in the centre of which is Oceanus in a two-horse carriage. The fountain is 49.15m wide and 26.3m tall, and the model is 26cm wide and 19cm tall.



The model is white with grey rocks. In the monochrome colour scheme, trans-blue sparkles like real water and glass. It is hard to pick a favourite detail: the trans-blue plates used for the windows, plates with handles (60478) for the balconies, single tiles for the pilasters, making the elongation effect stronger... The niche is built using an arch brick and bars, while the frieze is built using jumper plates which offset it by half a stud. Apart from the three central ones, the sculptures are cones (4589b) on plates. The triumphal arch has another frieze built out of white plates with door rails (32028) with white fences, shield and cones on top. The rocks were carefully built out of light bluish grey slopes of different sizes; there are almost 50 of them in the set. There is so much detail in them that it is sometimes difficult to follow the instructions, and the blue plates really look like they flow between them.



The least attractive part and the set's biggest con are the horses. Compared to the cone sculptures, abstract enough to fit the model, they seem too detailed. The curved-top bricks for their heads and the skeleton arms for legs just look bad. This technique ruins the simplified rich baroque architecture, which did not lose a bit of its richness in the rest of the model.

## 21022: Lincoln Memorial, 2015.

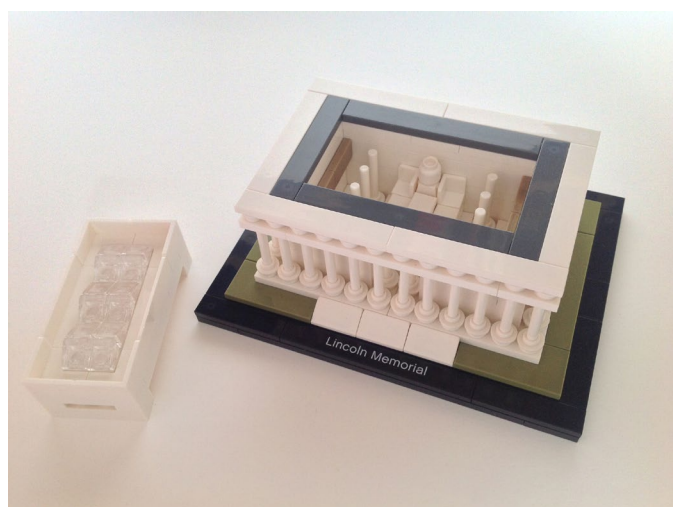
The Lincoln Memorial is a monument built in 1922 in Washington in honour of the USA's 16th president, Abraham Lincoln.



The shape is reminiscent of a classical Greek temple. The peristyle with its 36 columns symbolises the 36 states in the Union at the time of Lincoln's death. On top of them sits a frieze with state names, medals and a cornice. The colossal statue of the president sits inside, and the only significant change since the monument's construction are the 1929 holes in the marble roof made to additionally light the statue.

The model's main colour is white: the columns are made using white bars (87994) stuck into the open studs of round plates. These columns appear as strong as the doric ones of the real building. On top of them is the frieze made of white plates, round plates and tiles. The central section of the roof sits on sideways facing tiles and can thus easily be removed if you want to take a look at the tripartite interior. The roof allows light to enter through transparent slopes (54200) so you can see the white microfigure through the two-stud-wide entrance.

#





# Take control of your MINDSTORMS bricks (2)

By Oton Ribić

In the wake of the introductory article (HBM 28, page 69) of this series, where we went through the general idea of communicating with our pBricks, let us now get deeper into the matter itself and try to construct our first messages. For now, let's begin with the EV3 pBrick, since its workflow is slightly simpler, and cover the same path for the NXT later. Also, keep in mind that all these instructions work with the factory, stock firmware.

## Connection first

The first step in 'talking' to the EV3 pBrick is establishing a connection with it. This is most conveniently done using Bluetooth. The device intended to control the EV3, presumably a computer, needs to be paired with the EV3, which is a fairly straightforward operation done via the device's Pairing option in the Settings. However, before starting to send the messages, a terminal or port needs to be set up, which will be used to communicate with the newly paired pBrick.

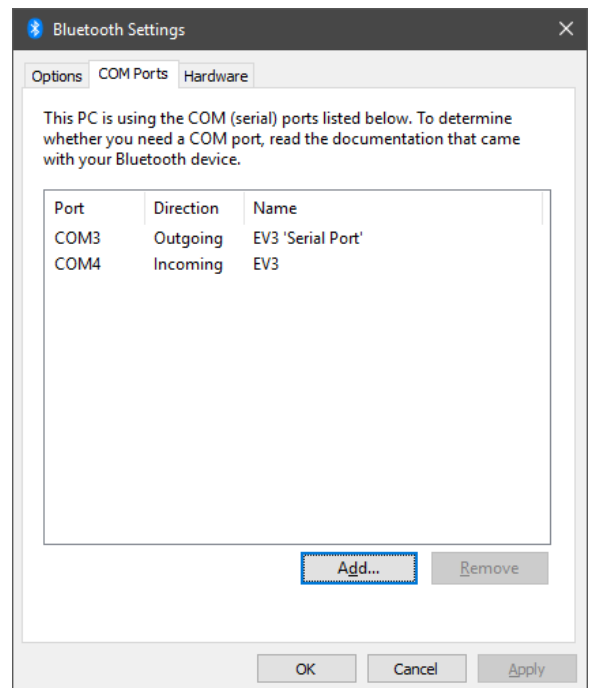
On a PC, navigate to Bluetooth Settings, then head to the tab COM Ports, click on Add, and create an Outgoing port to the pBrick you've previously paired with your computer. Note the number your computer will assign to the newly created COM. Without the need to go into deeper technical detail, let's just mention that this is an emulation, or rather a virtual communication port, and is in itself actually based on a rather old (as old as Classic Space), yet reliable and ubiquitous COM standard. All communication to and from MINDSTORMS bricks occurs through such COM ports channeled through the paired Bluetooth connection. In case you were wondering, this is no hack but a completely standard and recommended way of inter-device communication.

## Messaging and what it does

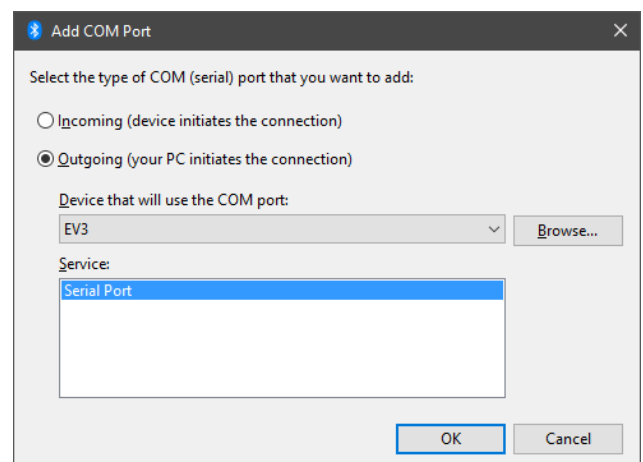
Now that the devices have been paired and their connection channel established, let's look deeper into the structure of the message. Generally, each message (in either direction) is a sequence of bits (i.e. digital zeroes and ones) grouped in sets of eight called — as you probably already know — bytes. Each message must be constructed according to a set of exact rules in order to be received and interpreted correctly. We will get to these rules in a minute, but before that let's take a look at how these messages actually work.

There are exceptions, but in general we can consider each message as a container of an instruction block, or a set of instruction blocks, from the official MINDSTORMS programming bundle, in sequence. For example, a block which lets motor B rotate 600 degrees clockwise at 75% power can be encapsulated into a Bluetooth message for the EV3, along with all these parameters. As we will see in the later articles, this is where EV3 differs from the NXT — and is therefore more practical.

Of course, when controlling a pBrick communication actually happens in both directions: we will usually desire to receive an acknowledgment from the pBrick that the previously sent message has been received and interpreted correctly. Also, in other cases the computer (or any controlling device) may want to read a value from a certain sensor connected to the pBrick; it is then down to the brick to send both an acknowledgment and the read value, possible.



To set up a Bluetooth COM port, head to Bluetooth Settings and click Add



Then create an outgoing port towards your EV3 brick. Note the COM number which will be assigned to it!

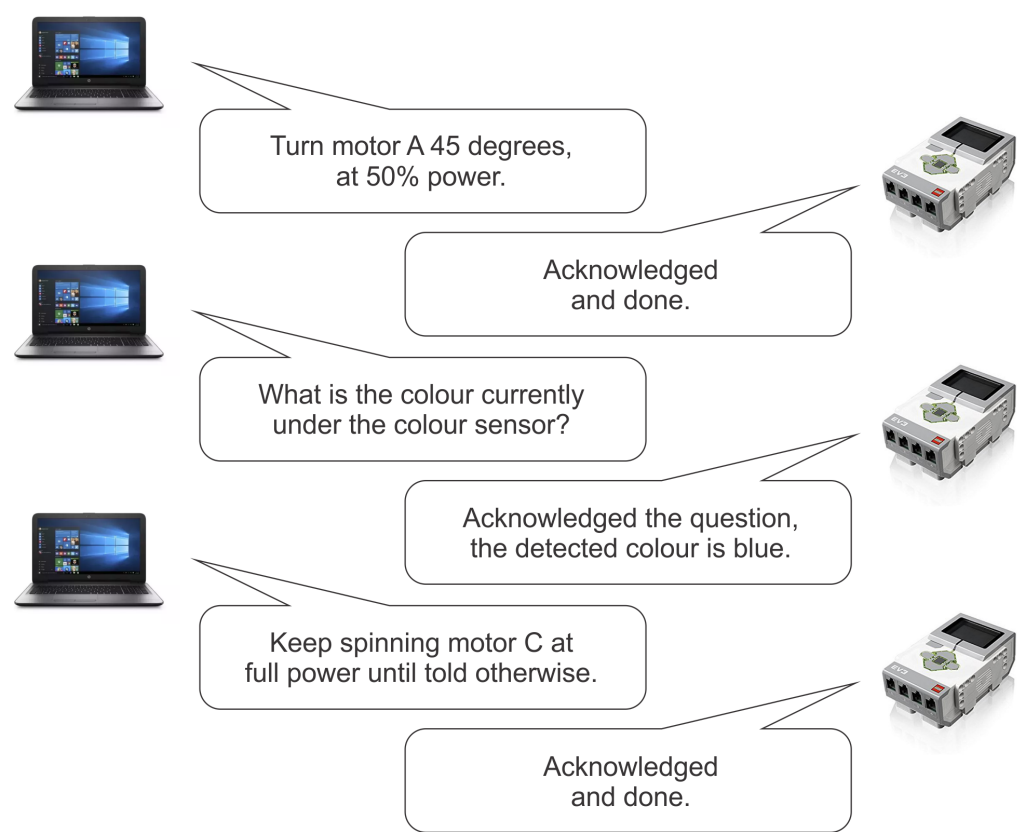
if

This exchange of messages between the two devices can be very rapid in practice, and nearly always begins with the computer sending a message, the pBrick acknowledging and acting upon the instruction, then sending back the success or error result. Whenever we need to ensure each instruction completely finishes before the next one begins, this final message will be a useful indicator that the EV3 has done all it was told to do, and is ready for new instructions.

### Into bits and bytes

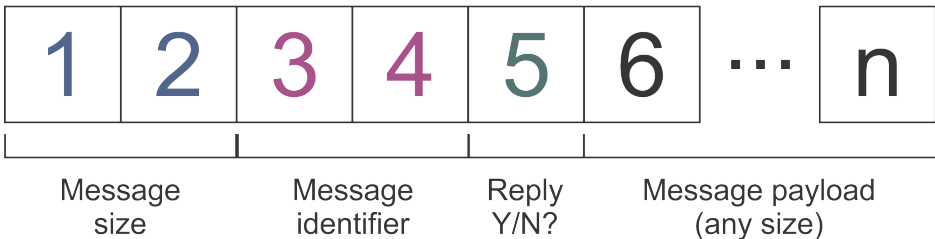
So, what do the messages look like? Let us begin with a few parameters at the top which are common and mandatory for all messages, while the remainder (which is more flexible) will be a subject of later upcoming articles.

Any message, regardless of who sends and who receives, begins by stating its own length, as a sixteen-bit number (from 0 to 65535, split into two bytes with values from 0 to 255) and, according to IT rules, with the smaller byte first and larger second, and not including this very length designator. For example, if the message is 300 characters long, the first length byte to be sent will be 44, and the second 1, because  $1 \times 256 + 44 = 300$ . If you are not at least superficially familiar with how binary and decimal number systems work, now is the time to learn! Wikipedia and many other free internet sites offer a lot of information on these topics.



It may seem redundant to state in advance how long a message is (you don't announce the number of letters in an email you send, do you?), but this is good engineering practice to ensure there are no ambiguities or lost information. After the first two bytes specifying the length, another 16-bit (two byte) number follows, which is the identifier of the message. It can be any arbitrary number, as it serves only to let the EV3 refer, when responding, to a specific message with that very number. For most cases this is not needed, but in those rare situations (which we won't be covering in this series, but you are welcome to explore for yourself) when multiple instructions and actions are being performed simultaneously, it can be useful to know to which of several previously sent messages the EV3 is referring to when acknowledging or returning a value, etc.

### Message bytes



Then, the fifth byte in the message is an indicator for whether an acknowledgment reply from the EV3 pBrick is desired. If zero, the message will require acknowledgment; and if 128, EV3 will just 'silently' accept it. In usual circumstances, one would desire to have every instruction acknowledged, but since this process may delay things for a tenth of second or two, in some very fast and critical movements this may be omitted.

If this is still rather confusing, don't worry. It will all become clearer when we start constructing some example messages in accordance with these rules, in the next article. So stay tuned!

#

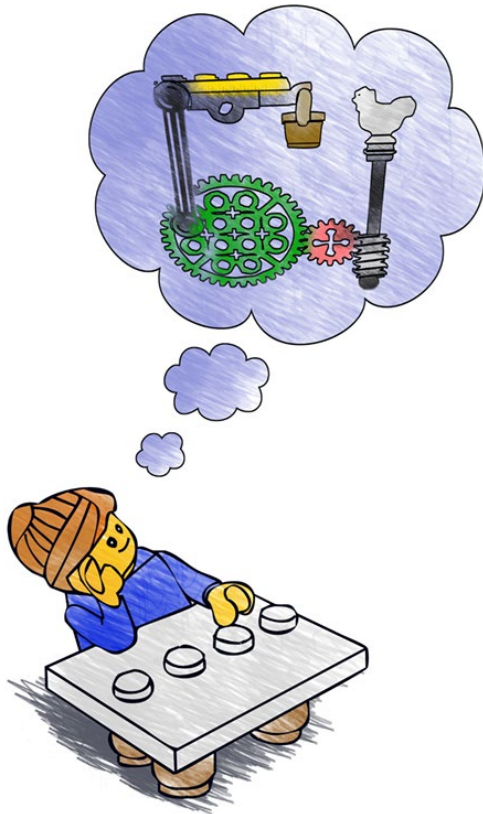


# Reversing the creative process

By Sven Franic

Whether you build as a hobby or aspire to be a toy designer one day, your creative process is likely to be a lot different now than when you were a child.

I won't go into creative process theories since the process varies so much among individuals that it is almost impossible to categorise into steps.



There are several distinct approaches to building. If you ask a LEGO® designer how they start a project, each will give you a different story. Some designers go straight for the bricks and start stacking, sometimes cheating the system's limitations by using cutting tools and glue in the initial stages. Some fire up digital bricks, and others hit the drawing board, create sophisticated colour maps and browse the internet in an attempt to better visualise their idea.

The goal here is always to create something according to your idea. This means elements have to adapt to your vision and you have to find the best part or technique to accomplish it.

What a lot of us did as kids, in a time without Bricklink and so many parts at our disposal or advanced knowledge of elements, was to try to find what could be done with the pieces we had. If the shape didn't quite match what we imagined, we just blamed the limitations of the bricks. We didn't seek other solutions or try to obtain different elements.



While observing how children build at our conventions, I noticed colour coordination is not a priority. They only have about three or four colours of 2x4 bricks at their disposal and yet you don't see a single child giving up just because they are missing a piece that would work better for their project. In fact, I think children would be less creative if they had a wide inventory of categorised bricks within reach. The overwhelming choice and order would become a challenge.

As adults, we lose this carefree flow of creativity. This is because the final idea is already formed in your head and you need your art medium to adapt to your idea in the best way possible. When the medium can't cope with the shapes or colours you imagined, you get into a diagnostic process and try a different approach.

Emptying a box of random elements in front of you to create a substantial build would now be a demanding task, while the kid sitting beside you would likely thrive in this environment, browsing and discovering in a random pile, drawing inspiration from the pieces themselves.



## Overriding your creativity



A couple of AFOL building competitions are designed around the idea of reversing the creative process by taking a piece, usually a very obscure one, and trying to find the best alternative uses for it. In other words, shaping the idea around the pieces instead of the traditional approach where your elements cater to your predefined vision. Some of the most imaginative creations come out of these competitions, which tend to override your natural formation of ideas, throwing you back into the pilot's seat of a child, only with more experience and knowledge.

The skill level of different builders surprisingly varies in this environment compared to how they normally build. This type of re-imagining on the spot is a skill TLG likes to test in potential designer recruits and can probably be applied to other aspects of life, outside the brick.

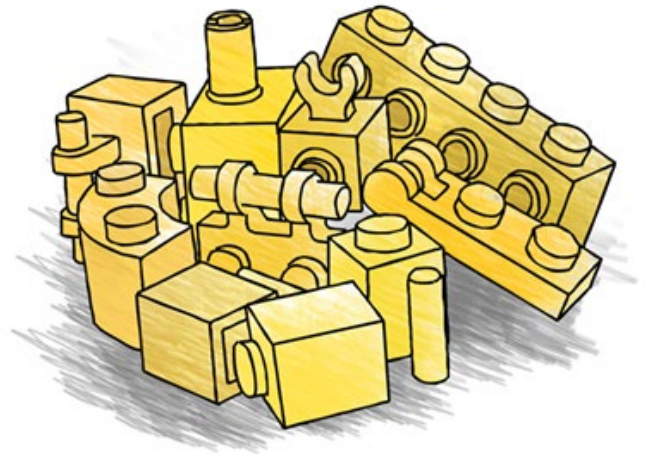
## Sorting and storing bricks

The way you sort and store bricks will ultimately affect your creative process. AFOL builders tend to have organically growing collections of pieces which sometimes get in the way of maintaining acceptable living conditions. I find sorting bricks a meditative process, but from what I have heard most people

aren't so enthusiastic when it comes to placing each piece in its corresponding bin.

The debate on how to store LEGO® bricks is never-ending, and very personal. Even if you finally acknowledge that you could have perhaps done it better, you are unlikely to admit it if it would mean having to re-invent the whole system and break established habits.

Sorting pieces by colour looks visually more attractive, but it takes longer to find pieces because your brain distinguishes colours more efficiently than shapes. This means you will more easily find a yellow brick with clips in a box of bricks with clips than you would in a box of yellow bricks.



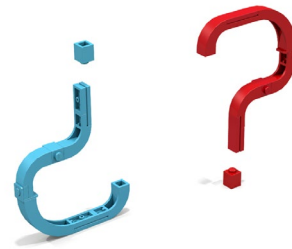
What you won't find in a box of bricks with clips, though, is inspiration. In order to make use of your 'child brain' imagination, you sometimes need a pile of random bricks. You can't be inspired by categorically sorted pieces because by the time you open the storage container, you already know what you are looking for.

Even the most advanced sorting system can benefit from a box of miscellaneous elements when you experience builder's block or want to get some nice part usage (NPU) into your builds.

#



# QUIZ ANSWERS



1.

*c) tractor*

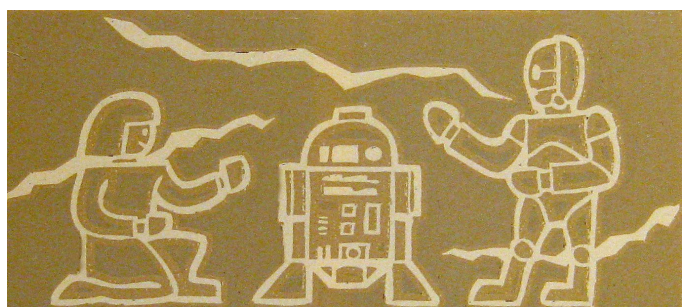
Because of the industrialisation of agriculture in Europe, many farmers started replacing their horses with tractors, which made LEGO's constructible tractor a huge hit – it sold 75 thousand copies in the first year. The profit from this made it possible for the company to invest in the LEGO® brick, which was yet to prove its worth.



2.

*b) Indiana Jones*

In the LEGO® set 7621 Indiana Jones and the Lost Tomb, in the hieroglyphics that Indiana Jones examines, you can spot a drawing of R2-D2 and C-3PO, like the one in the movie.



3.

*b) The force*

It is Yoda, the master of the force! He was the first minifig to have short legs, which are now an essential part of any child minifig.



4.

*a) Sausage*

Since the factory was named LEGO, the logo has gone through around twenty iterations. In the fifties, when the rounded white letters with a black outline on red were introduced, it was often referred to as “the sausage logo”.



5.

*a) Ogel*

And that is exactly why this bad guy fighting the Alpha team was named LEGO, but spelled backwards.





## A - Granny

The grandma, or should we say mother-in-law, does not belong here. Mom, dad and two kids live happily in the 5629 Family House, and if you want granny to join them, you have to get her from a different set.

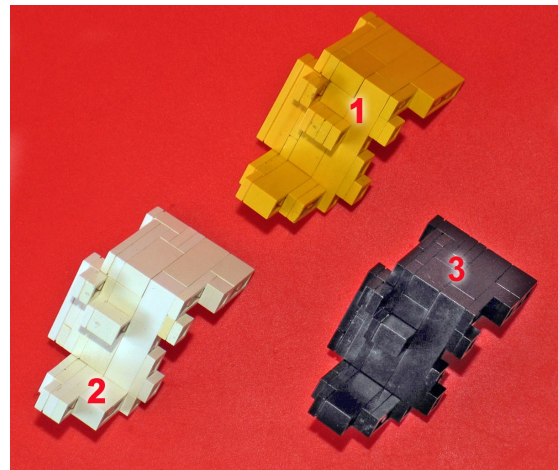


The minifig is admiring the clip plates (Plate, Modified 1 x 1 with Clip Vertical), which appeared in sets for the first time in 1980. Other novelties were the chair (here used as a car jack!) and the headlight brick (Brick, Modified 1 x 1 with Headlight), also introduced that year. It took LEGO® designers another ten years to rotate the clips 90°.



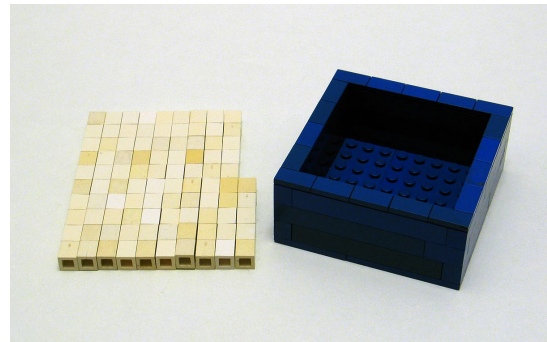
## 3 - The black piece

The yellow one has the middle prongs one plate too low (left of 1), while the white one has the side prong too low (2).



95

This photo also shows what happens to white LEGO® bricks after decades of use!

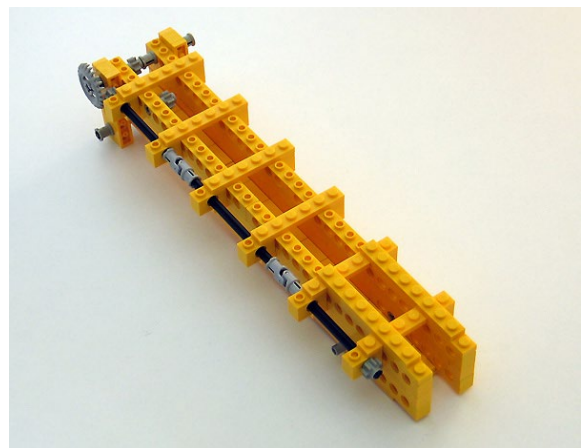


It is a part of the boom from 855 Mobile Crane (955 in the USA), a golden oldie. The original box could not have contained:

1 – plate with a hollow bottom tube: only full bottom tubes were produced back then

2 – universal joint 3L: only four-stud-long joints existed

3 – axle 10L: since shorter joints are in the picture, longer axles are also used





# HispaBrick Magazine® Event 2017

*By HispaBrick Magazine®*

*Pictures by HispaBrick Magazine®*



On December 8 and 9, 2017, we celebrated the 6th edition of the HispaBrick Magazine Event, an encounter for fans of LEGO® constructions, celebrated once again on mNACTEC in Terrassa (Barcelona).

Close to 7000 visitors enjoyed the exhibition of MOCs and displays build with LEGO® pieces, as well as the many different activities that were organised in the museum, including robotics workshops, a treasure hunt and a building area for kids.

As in other editions of HispaBrick Magazine events, there were collaborative dioramas based on the MILS, with themes like the battle of Hoth, The Lord of the Rings, Castle and Wild West.

Of course there were also City displays, a large funfair with many motorised elements, the battle of Endor, the Jakku attack, Steampunk, NINJAGO and Friends displays and a large collection of Panzerbricks armoured vehicles and Formula 1 cars, among other things.

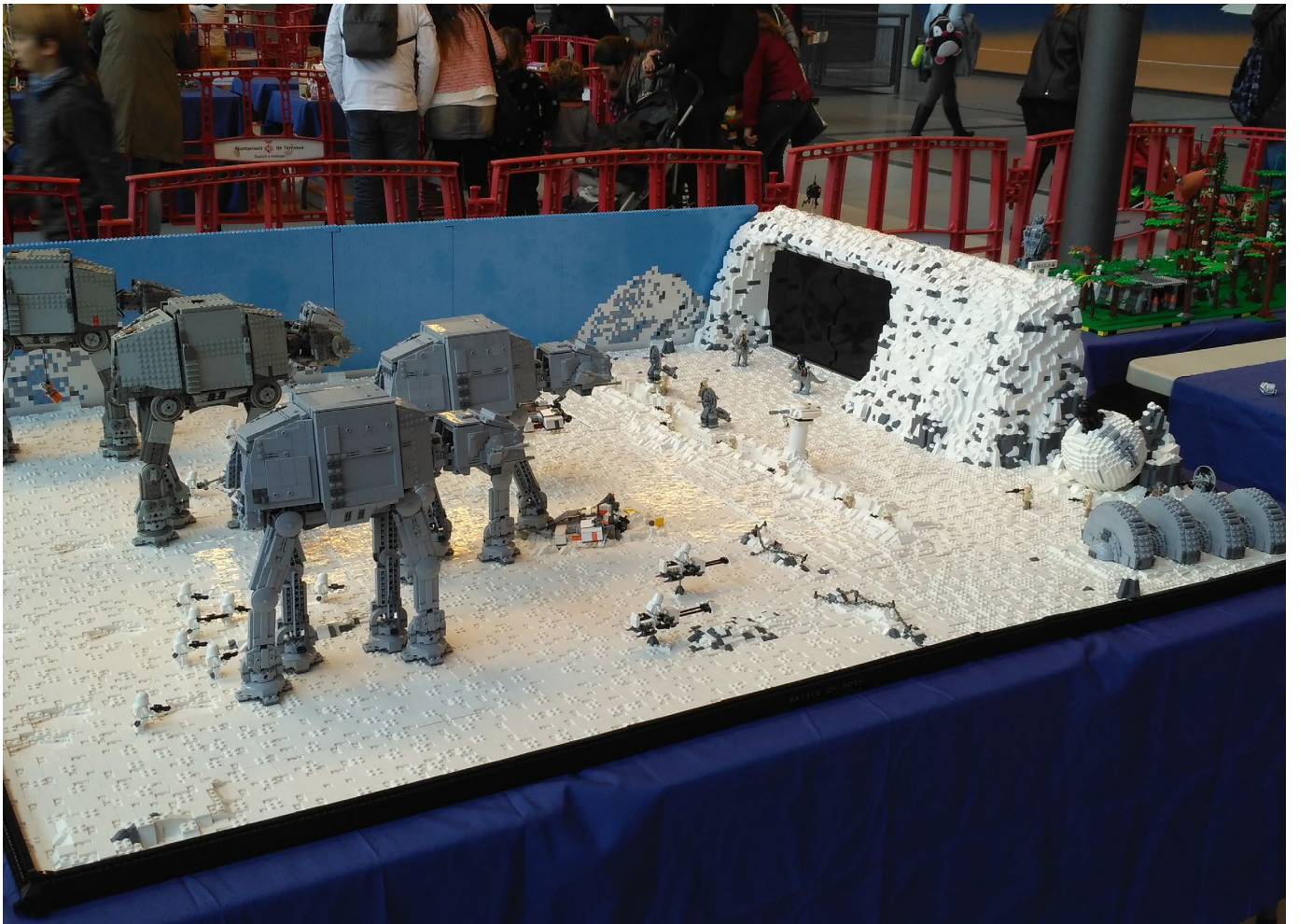
Like in previous editions, the MINDSTORMS and Technic displays attracted most attention from both adults and children.

In this edition we were happy to welcome Christian Giudicise from Promobricks and we were able to do an exclusive live build of the new modular Downtown Diner.

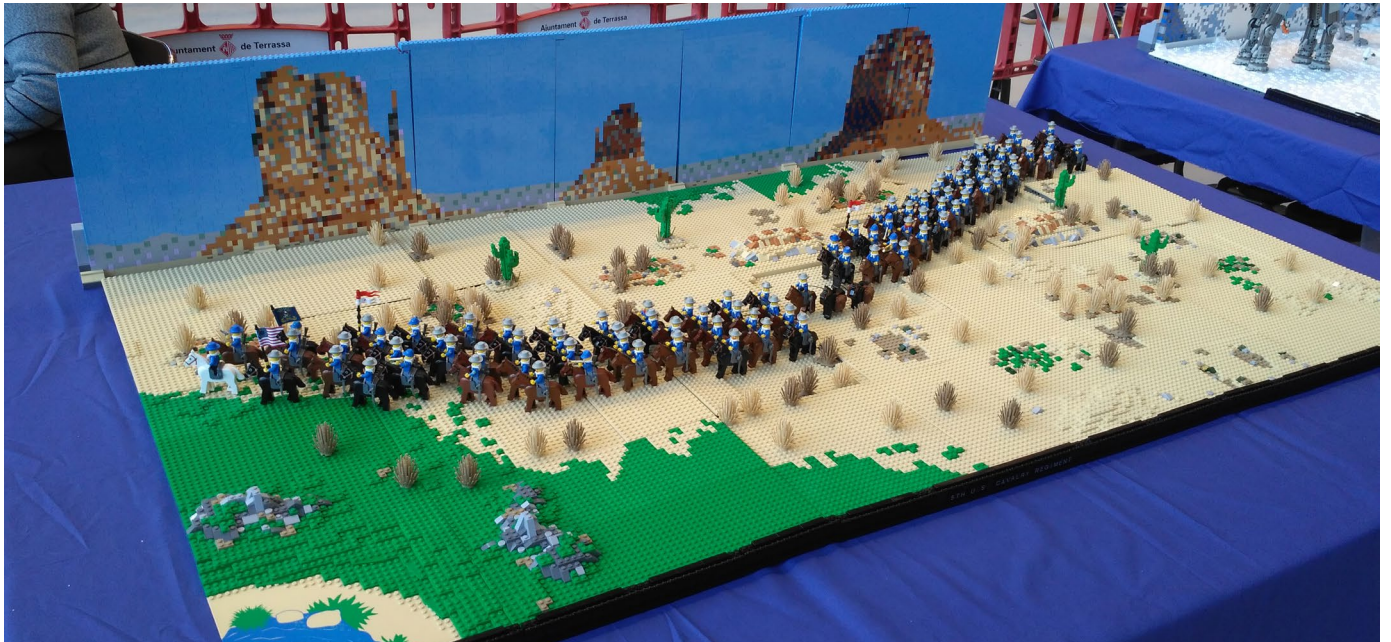
#



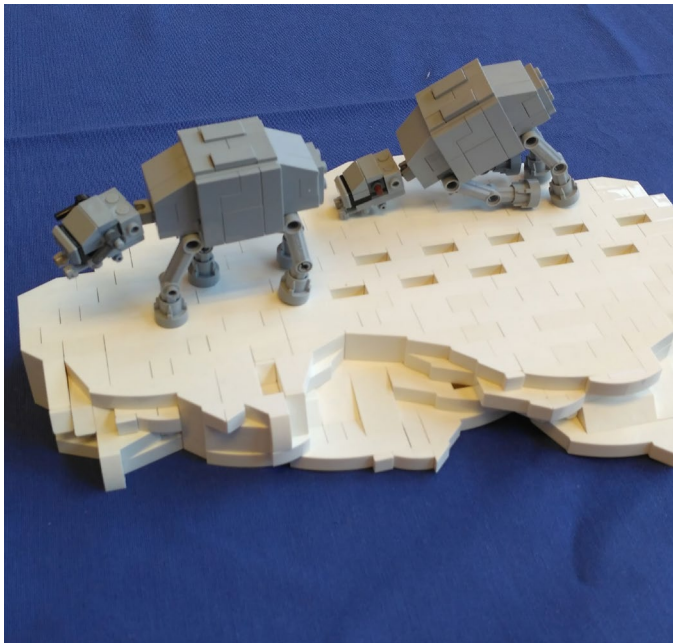
















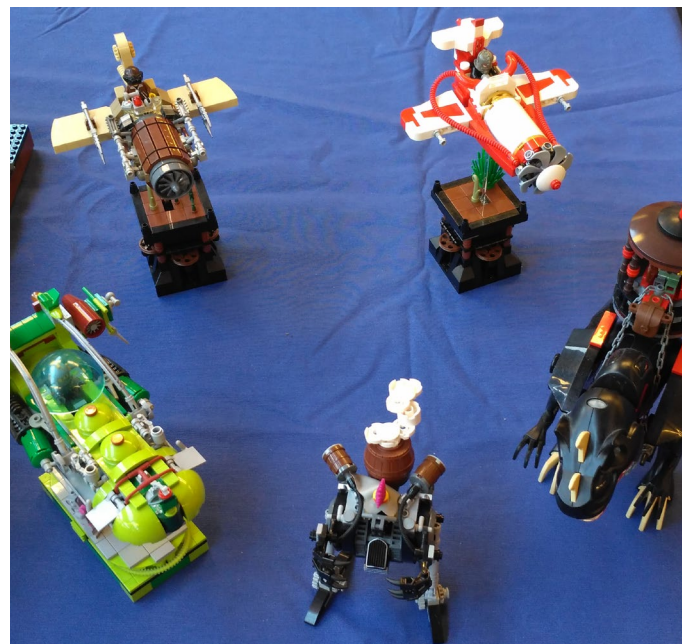




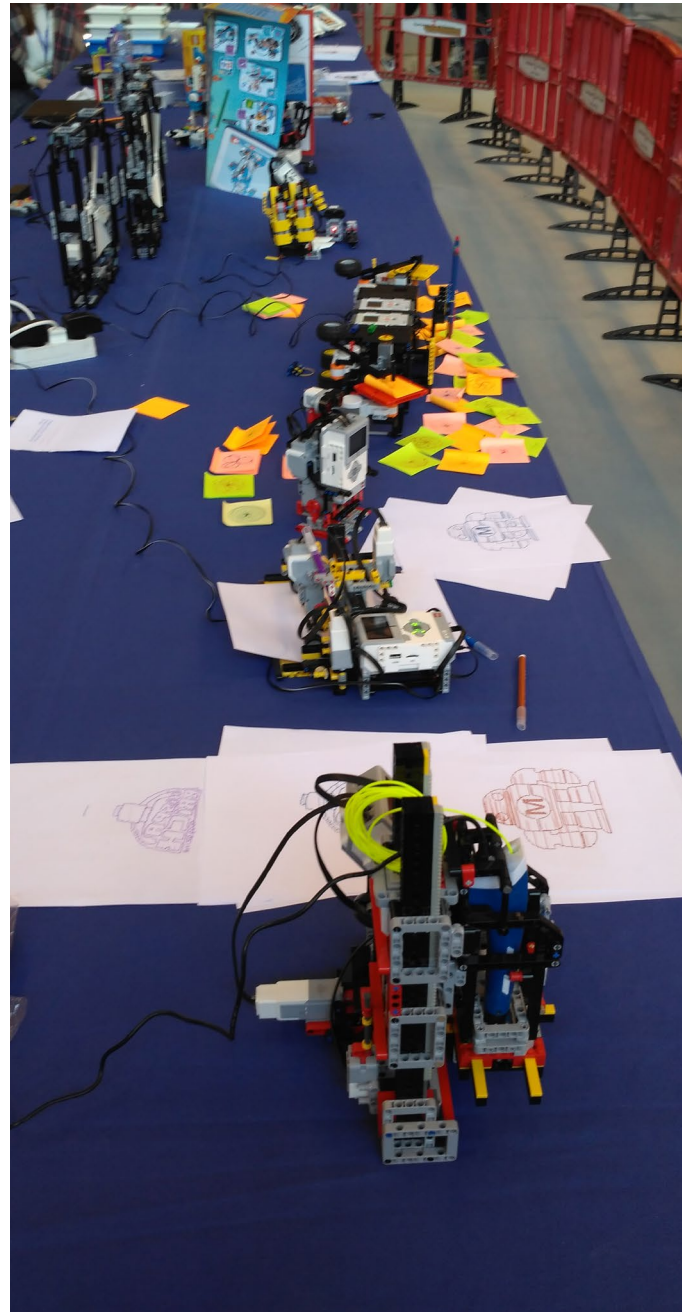














# LEGO® House Pre-opening

*Text by HispaBrick Magazine®*

*Images by Alexander Alekseev*

Possibly one of the most anticipated events of the last few years was the pre-opening of the LEGO® House on September 22 in Billund. Some 500 AFOLs were able to attend this opening.

The fans were convened in front of the building at 9:30am, by invitation only, as the capacity was limited. After getting an identifying bracelet that grants access to the exhibition and activity areas, everyone was assembled in the large interior plaza. There Kjeld Kirk Kristiansen, grandson of the founder and current owner of LEGO, and Jesper Vilstrup, General Manager of the LEGO® House, welcomed the participants and commented on some of the particularities of the project. They highlighted the involvement of AFOLs in the different stages of the project.

Then the doors were opened to the AFOLs and they started filling the different rooms of the museum. Unfortunately there was no surprise during the visit, as practically everything had already been shown during the many tests that were conducted in the preceding weeks and by the hundreds of photographs that had been published by those visitors.

Possibly the most interesting parts for the visiting AFOLs

were the 'Key Stone' and the basement. In the centre of the Key Stone, three large dinosaurs have been erected, on their individual platforms. Each one is built using one of the systems of play: DUPLO, System and Technic. Several AFOLs participated in the creation of these dinosaurs. Around the dinosaurs you could see creations from selected AFOLs. Each one showed a selection of their best known pieces. Anyone who browses the Internet for LEGO® creations will recognise most of them, but that doesn't make them any less interesting, as seeing them in person is always a pleasure and allows you to see details that are hard to distinguish in photographs. Most of the exhibiting AFOLs were there to proudly show off their creations. Congratulations!

The basement takes you on a tour through the history of LEGO. Upon entry you enter the first room, which contains a mold in the foundation of the building that can be seen through a glass panel in the floor. Next you start a chronological tour that shows some of the key models, themes and elements in the company's history. The tour is very interesting, especially the part where you see a display case with minifigs and elements that are decorated with the logos of different fan communities.



Mr. Kjeld Kirk Kristiansen and Jesper Vilstrup during the presentation



In the centre of the basement there is a room with three large circular tables, representing a 2x4 brick seen from the inside. Each of these tables contains several boxes of old sets, as well as screens that allow you to fill a virtual shelf with your favourite sets. Around the walls of this room there are shelves with milestone sets from the history of LEGO.

The rest of the LEGO® House is a combination of experiences and activities. There is a constant mix of the physical part (building bricks) and the digital part. You register for each of the experiences with your bracelet. After you finish, the content is uploaded to the cloud and you can download it at home with a special app to see everything you have done during that day. For example, you can build a fish, put it in a scanner, and the fish will appear in a virtual fish bowl. Since this pre-opening was yet another test, the scanners didn't work as well as could be expected and they were not able to recognise the designs. I am confident they will be fully operational now, though.

There was another activity using MINDSTORMS robots to rescue some explorers that are trapped in ice. The robots are controlled from a touch screen. You input a sequence of movements (forwards, turn, melt ice, etc.) and the robot executes them. The activity works really well and you could see the AFOLs were having a lot of fun with it.

Other areas that stood out were:

- The **Library**: where you can find all kinds of books and magazines about LEGO® bricks.
- **Dioramas**: minifig size, with details and fun references all over. A place to spend many hours observing brick by brick.
- The **big waterfall of bricks**: a multicolour sculpture simulating a waterfall, and built with many-coloured LEGO® bricks
- **Terraces**: you can also visit outside (no ticket necessary), where you can climb all the way to the top of the Key Stone, and take a picture on top of one of the large transparent studs where you can see the three dinosaurs beneath your feet..

During the visit you can leave the exhibition area to eat. The most successful restaurant is the Mini Chef, which lets you 'build' your own menu. When you sit down you get a bag with bricks and a menu with the meaning of each brick. You need to build your food with a brick from each group (there are four bricks per group): main (red), vegetables (green), sides (blue) and hot vegetables (black). After building the menu, you scan it and your order is sent to the kitchen. There are two robots that deliver the food, dance, joke and make the wait more interesting. The food was slow to arrive (45 minutes) while the restaurant wasn't very full, so this needs some improvement. The exclusive minifig from the restaurant compensated for the extra waiting time.



Robots from the MINDSTORMS activity



Library

At the end of the tour there is one last activity. Passing the bracelet through one last scanner, a kind of roulette is activated and each visitor is assigned one of the 915 million different combinations that can be made with six 2x4 bricks. This is a unique code for each visitor that is printed on a plastic card which is delivered together with six red 2x4 bricks which are produced on the spot by a moulding machine in the main square.

HispaBrick Magazine would like to thank LEGO® for the invitation to this pre-opening. This is the last in a series of articles we have published about the LEGO® House in the last two years and which have explained each step of the project, from conception to this pre-opening. The official opening took place on September 28, but HispaBrick Magazine was not invited so we can't tell you what happened there. From that day on the LEGO® House has been open to the general public and we wish it much success.

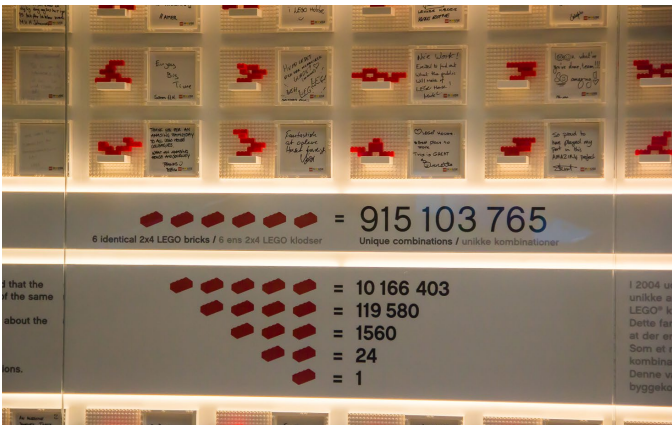
#



Dinosaur SYSTEM



Signaling



Combinations of 6 bricks from relevant visitors





AFOL setting up a MOC to be exhibited



Colorful waterfall and playing area

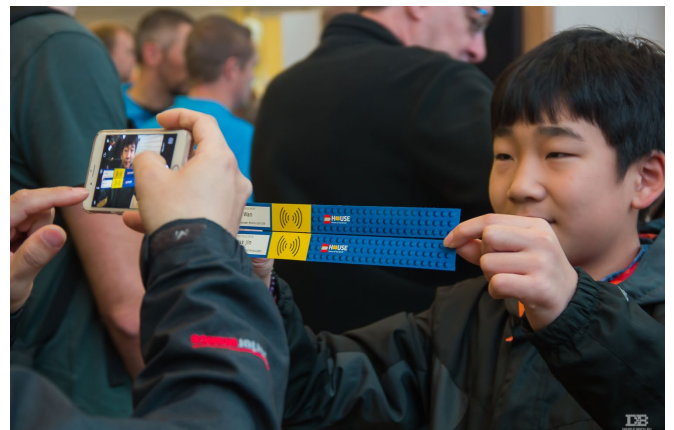




AFOL placing his MOC in the showcase



Ready for lunch!



Look my tickets for the pre-opening!



Tatami of the MINDSTORMS activity



New LEGO® House set





CITTÀ DI  
DESENZANO DEL GARDA



in collaborazione con:

Cremona  
**Bricks**<sup>®</sup>  
www.cremonabricks.it

# MATTONCINI IN CASTELLO

## 21 - 22 Ottobre 2017

Via Castello, 1 - Desenzano del Garda (BS)



Sabato dalle 9.00 alle 22.00  
Domenica dalle 9.00 alle 19.00  
**INGRESSO LIBERO**

ingresso diretto soci It LUG<sup>®</sup>  
(con tessera alla mano)



**ESPOSIZIONE DI OPERE REALIZZATE CON MATTONCINI LEGO<sup>®</sup>**  
**EXHIBITION OF WORKS MADE WITH LEGO<sup>®</sup> BRICKS**

PER INFO E CONTATTI:  
[www.cremonabricks.it](http://www.cremonabricks.it)



[www.facebook.com/cremonabricks](https://www.facebook.com/cremonabricks)

  
DESENZANO 4 YOU  
100 ANNI DI STORIA E CULTURA - 100 ANNI DI SVILUPPO

  
Desenzano Sviluppo Turistico







# Mattoncini in Castello – Desenzano di Garda



in collaborazione con:

Cremona Bricks®  
www.cremonabricks.it

*Text and images by HispaBrick Magazine®*

It has been years since I last went to an event for the simple pleasure of talking to AFOLs and looking at their models. That is why, when I saw on the Cremona Bricks facebook page that they were organising an event relatively close to Milan in mid October, I quickly used a flight searcher ... et voilà, my plans for the weekend were made!

The event took place in Desenzano del Garda, a village on the shore of Lago di Garda, 75 Km from Cremona and 120 Km from Milan. the venue is an idyllic place - an 11th century castle from which you can see the lake. A marquee for the exhibition was set up in the inner courtyard. Around the marquee there were three play areas for kids to imitate the exhibitors in different construction activities. Inside the castle there were some sales points and a Pick-a-Brick for visitors that served to raise funds for the RLUG.

In the exhibition area, there was a small selection of themes, models and dioramas. In the central part there was a large City diorama. It contained a mix of sets and interesting MOCs, including some official, modified and original modular building. I especially liked the Ferrari dealership, which was very complete and modern, with a large shop window and a parking lot that was the envy of any rich man. As in every self-respecting City diorama, there was a train running around the display.

Another diorama I liked a lot, due to its level of detail and originality, was one about ancient Egypt. Although a large tan coloured model may seem monotonous, the small scenes and allusions made it very eye-catching. The medieval diorama was extraordinary. It was a collaborative display with many different styles and hundreds of details you could spend hours observing.

In addition to the large dioramas, there were smaller scenes with diverse themes, like Fabuland, 4.5V Trains, Friends, a model of the Titanic and a number of Star Trek BrickHeadz.

The dinner at that night was very lively and, despite my limited italian, I had a great time and met many AFOLs. The menu? Delicious pizza, of course.

There were 58 exhibitors at the event and it drew some 15.000 visitors, and although it might be considered a small event if you look at the exhibition surface, it was very successful and I recommend it especially because of the cordiality of those participating. Some of them agreed to collaborate with HispaBrick Magazine®, and you can find some of their articles in this edition.

I would like to thank Cremona Bricks for all the kindness they showed me during my visit, and especially Luigi Priori, who helped me to prepare the trip.

#



ESPOSIZIONE DI OPERE REALIZZATE CON MATTONCINI LEGO®  
EXHIBITION OF WORKS MADE WITH LEGO® BRICKS

PER INFO E CONTATTI:  
www.cremonabricks.it



www.facebook.com/



bricks

DESENZANO 4 YOU  
LUG®

Desenzano Sviluppo Turistico



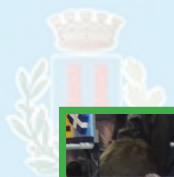




ingresso diretto sotto il LUG  
(con tessera alla mano)







CITTÀ DI

in collaborazione con:

Cremona Bricks®



PER INFO E CONTATTI:  
[www.cremonabricks.it](http://www.cremonabricks.it)



[www.facebook.com/cremonabricks](https://www.facebook.com/cremonabricks)

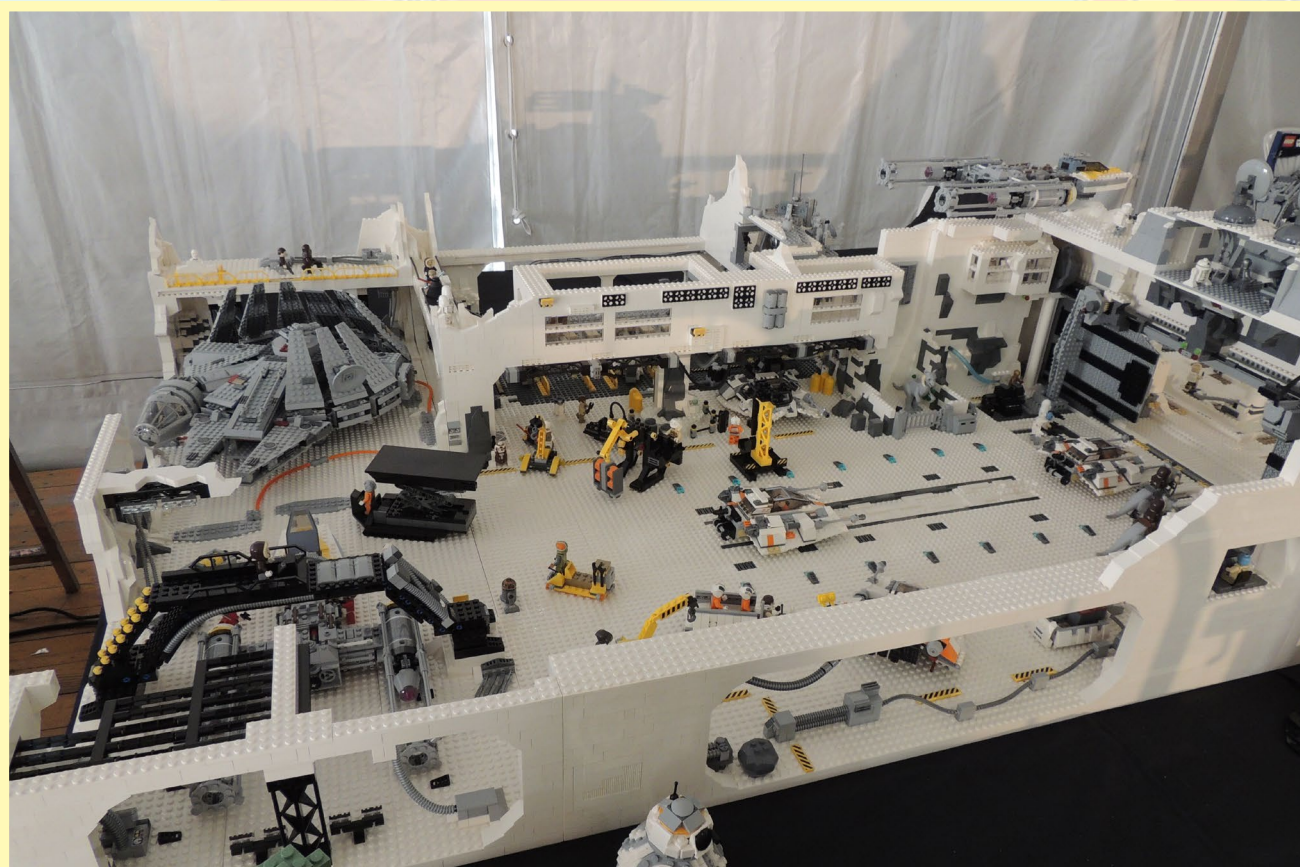
80

DESENZANO 4 YOU  
L'ESPOSIZIONE DI LEGGO E L'ESPOSIZIONE DI LEGGO

Desenzano Sviluppo Turistico





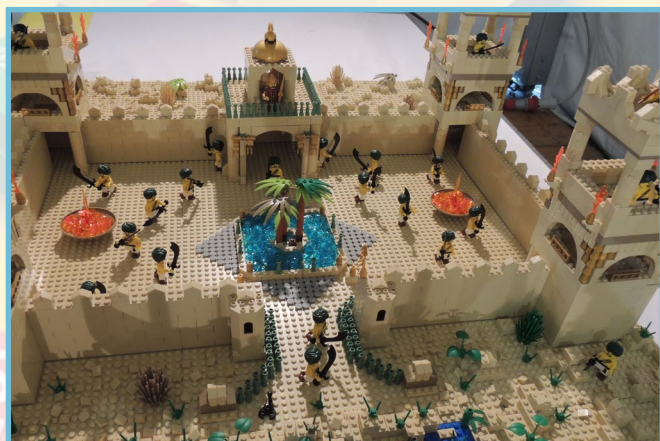


ES  
EXHIBITION OF WORKS MADE WITH LEGO® BRICKS





(con tessera alla mano)







CITTÀ DI



in collaborazione con:

Cremona Bricks



PER INFO E CONTATTI:  
[www.cremonabricks.it](http://www.cremonabricks.it)



[www.facebook.com/cremonabricks](https://www.facebook.com/cremonabricks)

83

ricks

DESENZANO 4 YOU  
COOPERATIVA SOCIALE ON-LINE DI CULTURA, PASSIONE E SPIRITO

Desenzano Sviluppo Turistico







# Reviews

## Review: 10260 - Downtown Diner

*Text and images by lluigib*

**Set:** Downtown Diner

**Set Number:** 10260

**Parts:** 2480

**Minifigures:** 6

**Recommended Price:** 149,99€ / \$169,99



On December 7, during the HispaBrick Magazine Event 2017 (HBME2017), we had the honour of presenting a global exclusive: a live build of the new modular building for 2018, the 10260 Downtown Diner. To allow other AFOLs to participate in the exclusive and let the public enjoy it, we built the set during the first day of our event. Four AFOLs shared in the experience which was shared on our Facebook page [1] as well as on Promobricks [2], thanks to Christian Giudici who visited our event. The set was highly anticipated and many visitors recognised the model.

Now let's have a look at the set. The first big change after ten years of modular building is in the minifigs. No more classic smiley faces. However, each of the minifigs has their own personality. I would like to highlight the waitress, with a blue and white striped blouse and a scarf around her neck, the boxer with his gloves and classic haircut, and the singer with his frilled jacket, Elvis hairstyle and double face expression: smiling and singing.





The minifig accessories are also interesting. The waitress uses rollerskates and has a tray with pancakes, The sporty girl has a pair of weights and the singer has a red electric guitar.

The car that comes with the set follows the same 50s style. It is a beautiful pink car with that touch of exaggeration characteristic of cars from that era. The rear part stands out especially, with two big aerodynamic fins leading to the rear lights. The car can hold three minifigs. The designers have managed to create a six-wide car that will hold two minifigs in the front and one in the back.

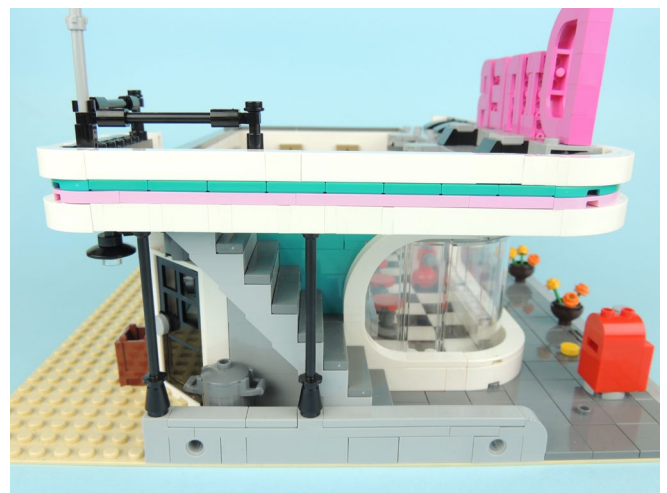


The ground floor of the Downtown Diner reproduces a typical 50s diner. For anyone who didn't experience this decade personally, it may evoke memories of Back to the Future, when Marty goes back in time and meets his father.

The façade is one big effort to make things as 'curvy' as possible. The columns, the windows and the marquee try to avoid any square shapes and are very effective. Since a considerable number of curved tiles and brick arches of different sizes have appeared, this kind of design has become more feasible. The combination of colours on the outside is very retro, with white, pink and a reintroduction of teal green (aka dark turquoise, last seen in 2005).



The marquee runs all the way around the building, reaching the rear and even the stairs on the side leading to the upper floors. In the front of the marquee there is a gorgeous 'DINER' sign, in a darker pink. The letters are built with plates, bricks and round bricks, and are very well connected to the structure.

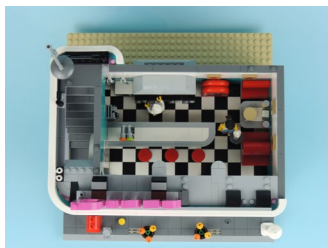
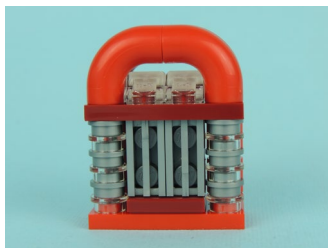


To finish off the exterior, the door to the diner is printed with the name 'Jims' and an 'Open' sign with some decorative borders. In the street there is a mailbox in a more Danish than American style, two flower pots with plants and a new style of flower, and a parking meter

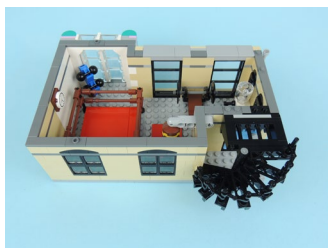
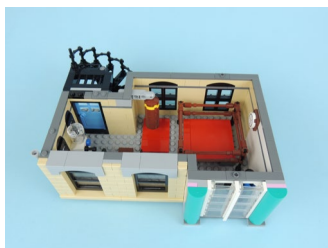


The inside of the diner is very detailed. The floor is tiled in black and white. The kitchen has four burners, a hood, kitchen utensils, two drinks dispensers and a coffee machine. A large bar separates the kitchen from the dining area. There are three stools in front of it, and on the right side there is table with a

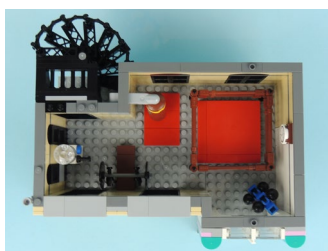
bench on either side, a ketchup and mustard bottle and a box of napkins. There is also a Wurlitzer-style jukebox. The bottom part of the of the wall is green and the top is white, with a pink stripe, matching the outside. There are pictures on the wall of Hollywood stars, and on the left side there is an exit to the back for the personnel.



On the first floor there is a gym with a boxing ring, a punching bag, a weightlifting bench and some weights. Since the stairs finish on the side of the building, the entrance is at the back. The boxing ring takes up a 9x9-stud space, so you can fit in two minifigs for a fight. In this case, since there is only one minifig with boxing gloves, you'll have to resort to the collectible minifig collection to find an opponent. The punching bag moves if you punch it. This effect is quite well achieved with a ball-joint. There is a stand for the weights right next to the window. A water fountain helps the sportsmen to stay hydrated.



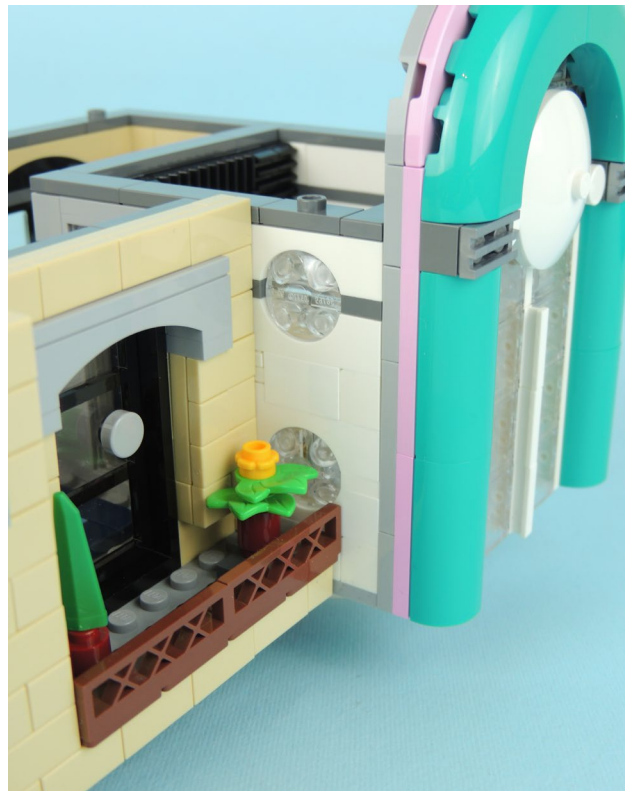
The outside is quite sober, except for the continuation of the green columns at the entrance of the diner, which protect the window that rises all the way to the top of the building. The front façade is covered with tiles. This is achieved by building a wall of bricks with studs on one side and covering those studs with tiles, resulting in an interesting appearance. On the side, above the stairs, there are two windows. One of them holds the aircon unit. On the rear there are also two large windows and the stairs to the top floor



I will focus on the stairs for a moment as they use an interesting building technique I haven't seen before in any other set. Each of the rungs is built identically and they are joined using a Technic Axle. To stop the rungs from moving some mechanical battle droid arms are used, providing support and separation all the way up to the top floor. This takes building stairs to a whole new level :)



The outside of the top floor is almost identical to that of the middle floor. The main difference is the balcony which takes the place of the large windows. On this balcony there is a plant made with the new plant leaf elements. The other big difference goes almost unnoticed: there is a round window on the side of the balcony. It is made with two arch bricks, one of them placed upside down. The window pane is a Trans Clear Plate, Round 2 x 2 with Rounded Bottom. The green columns that come up from the ground floor are finished off with a rounded structure, providing the perfect 50s finish.



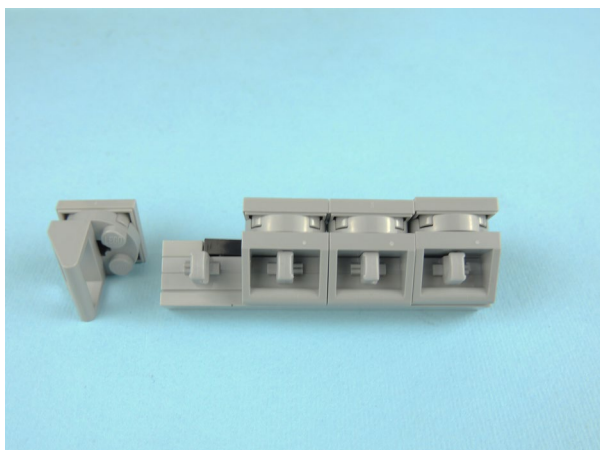
The interior of this floor is a fully equipped recording studio. First there is a waiting room with an armchair, a side table and a rug. There is another rug in front of the door to the balcony, as well as a drinks cabinet. By way of decoration,



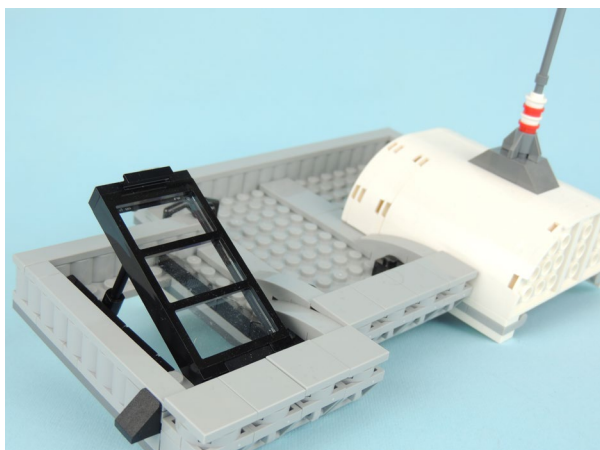
there is a golden disk on the wall as well as the cover of the singer's latest album. The recording equipment is in the corner. It consists of a large mixing desk and a 'Revox'-like tape recorder. The sound engineer can see the singer through a large window and give him instructions. The sound-proofed recording studio contains a large standing microphone, so the singer can give it all.



The roof, which is accessible from the stairs on the side of the entrance door, has a skylight which opens right on top of the waiting room. The ledge is built using a new construction technique.



On the right side there is a curved roof atop the green columns that rise up from the diner. On top of this roof there is a radio antenna. On the inside of this roof there is a lamp which illuminates the sound-proofed recording studio.



The set is fascinating. It is true that it breaks stylistically with the traditional modular building concept we have seen over the last ten years, but since LEGO® has also broken other tabus – like the traditional smiley faces – why not add more diversity to our cities?



It is really hard to find any defects in this set (and it's usually easy to find fault with something you haven't designed yourself). In this case, there is hardly anything I do not like. The design is robust, beautiful, mould-breaking, and fun to build judging from the comments of the AFOLs who participated in the HBME2017 live build. The selection of minifigs is excellent and all the furnishings and accessories, from the jukebox to the car, are in style. The colour combination is spot on. They bring out the diner style and make the top floors more austere. Since the diner has a large window, I'm thinking of ways to light the interior. It is going to look spectacular!

We would like to thank LEGO® for providing this set for review. However, LEGO® neither approves nor endorses the opinions we publish about their sets.

[1] [facebook.com/hispabrickmagazine](https://www.facebook.com/hispabrickmagazine)

[2] [promobricks.de](https://www.promobricks.de)

#

# Review: 41314 - Stephanie's House

By Jetro de Château

Images by Richard Jones and LEGO® System A/S

Stephanie's is the 3rd of the Friends houses. As an adult I particularly like these houses because they include the Friend's parents as well, adding to the mix of diverse minidolls. Stephanie's parents are Alice and James. The stylish glasses on Alice's face are a nice touch; there are only a few minidoll heads with glasses available. Her hairstyle is also more adult as she features a nice short(ish) sideways sweep. James's torso is my favourite piece for this minidoll, but then who doesn't love sand green? His face is possibly a little young to be Stephanie's father, but we can all dream, can't we? Unfortunately, there is nothing new about Stephanie herself.



I am torn about the instruction book(let). There is a trend of producing single volume instruction books rather than including two or more booklets for larger builds. I see both advantages and disadvantages. The larger, single-volume books are frequently packed in their own bag (as is the case in this set), meaning they will arrive in perfect condition – no dog-ears or worse before you even open the box. On the downside, if there is more than one person involved in the build (I often have two builders engaged at the same time) this makes it harder to share the instructions. Fortunately, there are digital instructions available online, although the colour and definition of those instructions is usually quite poor. In this case however, they were fine and we could work on different parts of the house at the same time.



The sticker sheet is bundled with the book and has some cool prints that are used mostly to liven up the interior of the house. This means that most of the pieces which receive stickers are either panels or tiles. The panels are easily reused in alternative builds that won't immediately show the sticker (remember, it's on the inside) and the tiles are decorative elements (a doormat, a bed cover and a sofa seat) that liven up the house.

They will be much appreciated by the primary audience and help tell the story around the house. The really important decorations are printed on the parts themselves. This is especially nice in the case of the bay window, but we'll get there...

The build itself is split into five parts and there is one numbered bag for each stage, plus a bag with large plates for each floor of the house. **Bag one** builds the right side of the ground floor,





with the dining room/kitchen, and contains the beautiful bay window. As you may already have read in the interview with the Friends designers, this was a feature they really wanted to include in this house, but the original bay window was too closed. This was improved in the second concept for this set, using hinges. Unfortunately, that made the build a lot more complex. The new design – using a new Door Frame 4x4x6 corner, which was new in 2017 – allows you to look into (and out of) the dining room and the printed window panes make it something special. Three window panes are used for the bay window and another three appear in different parts of this same set. Bag one also contains Stephanie's rabbit and pieces to build a hutch for it, adding to the overall play experience.



**Bag two** contains the parts for the other half of the ground floor. In contrast with Olivia's house, the ground floor is not split into two modules, and this allows for a separate hall area in the middle of the build. The swing on the veranda is another feature of the house that was present from the very first concept. It has been streamlined, widened to allow space for all three characters, and panels with center dividers have been added to make sure they won't fall off. The fence on this side of the build was also removed to allow better access to the swing.



**Bag three** is mostly decoration: cupcakes, kitchen tools and other finishes for the ground floor. It adds a winding staircase in lavender, built with two large staircase sections. This section is built on a separate plate and attaches to the structure of the house with hinges, giving the house a little more depth. The TV is placed on that same plate so the living room can be opened to allow better access and more playability. The vacuum cleaner is the signature piece for this build and of course the perfect place to store it is under the stairs!



**Bags four and five** are used to build the two upstairs sections, and again we see a number of elements that were inherited from the original concept builds. The bay window almost requires a balcony to top it off. A hot tub that appeared in an earlier version has been removed – it had already been used in the Heartlake Hotel – just like the barbeque that was present in a number of other sets. Stephanie's bedroom is still recessed one stud from the rest of the build, creating space for the balcony without losing space in her room. A lot of the decoration in this room depends on stickers. A picture of Stephanie with Chili (her pet rabbit), a calendar on the wall, a shelf with trophies and a mirror on another wall, the bed cover...

The stickers really make the place come together, but I am left wondering if this couldn't have been achieved with fewer stickers and one or two more brick-built details, as could be seen in some of the concept builds. Overall it should be said though that one thing that stands out in the progression from concept to final model is how in general the rooms have become less cluttered and easier to access. The gable roof on top of the bedroom is a separate section, which is handy if you want to store the set.



In the second upstairs module the bathtub from the concept builds has given way to a shower, creating space for a study area. I feel this is a big improvement. Oddly enough this means that in this particular case while there are now more (different) play elements available than in the concept builds, the final result is still more sleek. The bathroom still has a washbasin, a toilet and a shower with hot and cold taps and a bottle of



shampoo. There is also a very large and transparent window in the bathroom – an odd choice, considering there is no shower curtain, but seen from the outside it makes sense with the rest of the façade. The study includes a computer and a large sticker with a map of the world. It looks like Stephanie is planning a holiday. The swivel chair at Stephanie's desk is a nice touch, even if it is really hard to get a minidoll to sit on it (and not fall off).



## Conclusions

Overall Stephanie's house is a nice addition to the suburbs of Heartlake City. It has a distinctive style and colour palette and a clear, modern interior. There are too many stickers for my liking, but you can always choose not to apply them. Still, the overall level of brick detail is good. There are also plenty of play features in the house. I particularly like the depth created by the addition of a staircase, the swing, and the space for the balcony – a result of combining the space on top of the bay windows and recessing the bedroom. But where do the parents sleep? Well, that is up to you to build!

I would like to thank the LEGO® AFOL Relations & Programs Team for providing the set for review. However, LEGO® does not approve nor endorse the opinions we publish about their sets.

#





# Review: 70922 - The Joker™ Manor

By Jetro de Château

Images by Jetro de Château and LEGO® System A/S

**Set:** The Joker™ Manor

**Set number:** 70922

**Parts:** 3444

**Contains:** 10 minifigs

**Recommended Price:** 269,99€ / \$269,99





The Joker™ Manor is the latest big set in a series related to the LEGO® Batman Movie. The sheer size of the box already looks impressive on paper: More than 3440 pieces and 10 minifigs. And of course the size of the box is in accord with the size (and volume) of the set. Is the set worth it, even for someone who is not a 8big) fan of the movie? Let's see...

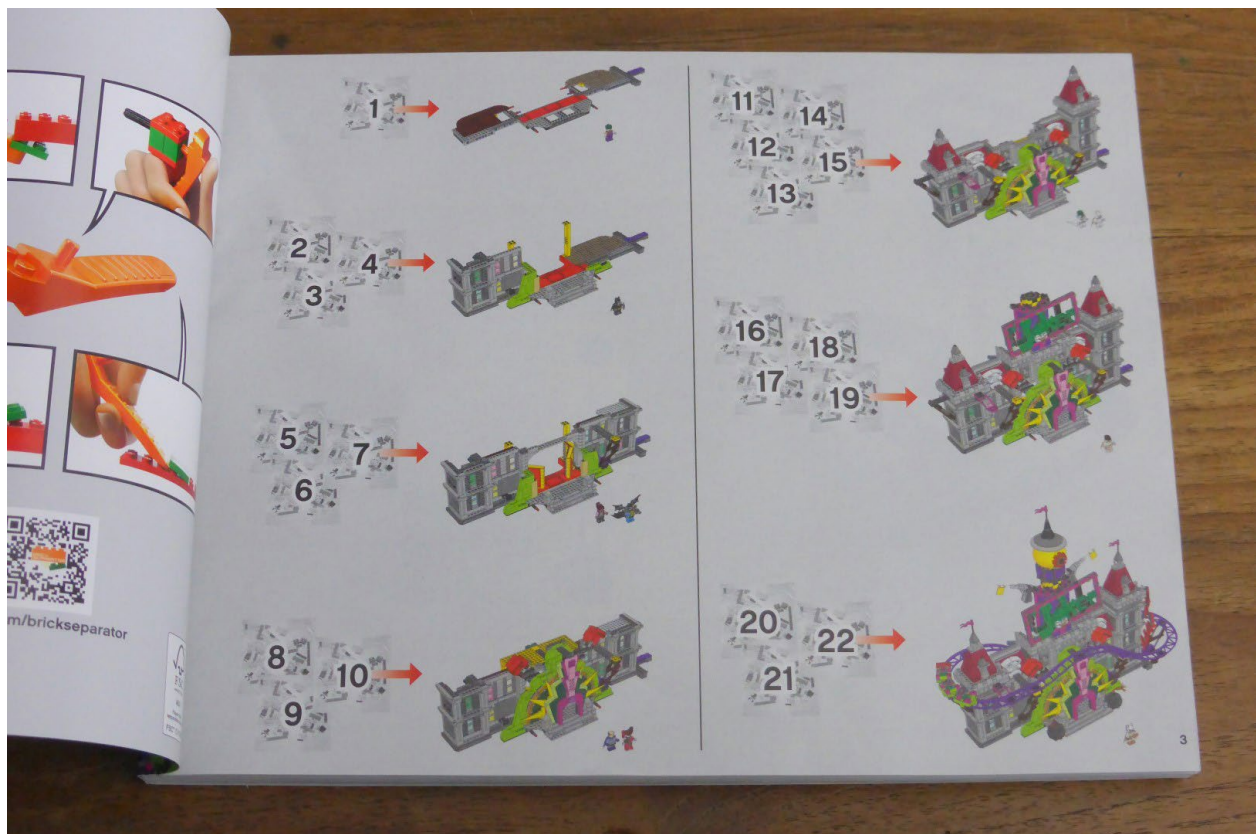
LEGO® produces an important percentage of licensed sets and that has both advantages and disadvantages. On the one hand, it means they can take advantage of certain fashions, which brings in a public that follows a particular license aside from LEGO® fans. On the other hand, licences have a clear influence on the cost of sets – the set reflects not only the price of the bricks and the work of the LEGO® designers, but there is also another brand that receives a percentage. The larger the set the bigger the effect on your pocket? Doing the numbers (or simply going to Brickset to see the price per piece) I was pleasantly surprised: despite the license, the price per piece (which is usually a reasonable indicator in larger sets) shows the set is very reasonably priced. In Spain the price of the set is 279,99€ which comes down to 8.1ct/piece. Compared to the new modular, with a price per piece of 6.9ct there evidently is a difference, but it's quite a bit less than the 10 to 11ct/piece of some Star Wars™.

Let's get to the set!

Given the size of the set, LEGO® used two interior boxes to prevent the outside box from being deformed. 22 numbered bags and two with additional parts.

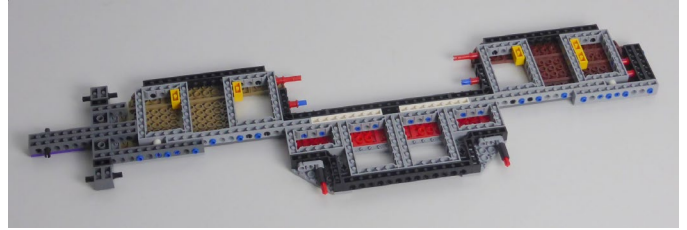
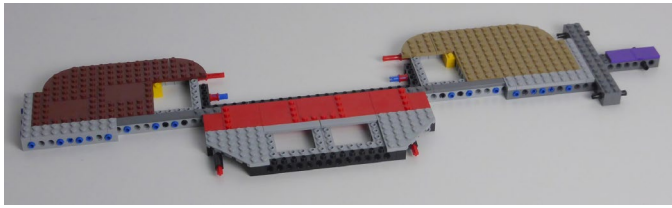


These are grouped into stages for the construction of the mansion as the instruction booklet shows.

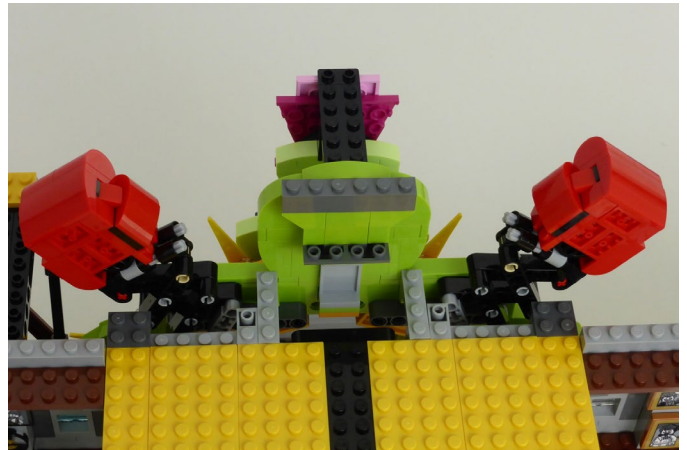




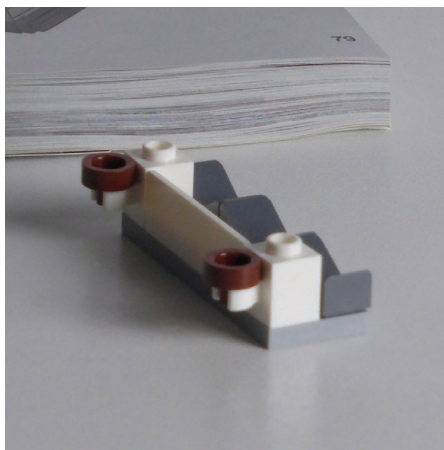
A set this size requires a solid base. Contrary to modular building which are built on baseplates, the Joker™ Mansion is built on a base made up of Technic Bricks and plates. Truth be told, during the first steps it's hard to know whether you are building a spaceship, a car or a house, but little by little things start to take shape.



Technic elements are included in several places, both for structural and mechanical reasons. It is nice to see different LEGO® systems to complement each other in this way.



It isn't just Technic that stands out. Although most of the construction techniques are quite simple – one brick on top of the next and a little SNOT – there are a few exceptions. The most notable one is the one used in the top part of the windows in both towers.



Another curious construction is the one used at the entrance of the Mansion.



The quarter arch with sunbeams on either side of the doorway stays in place thanks to modified plate with bar and a clip.

Another outstanding element is the modified plate with towball socket. This element is perfect to convert a “traditional” house into a comic book representation. The large illuminated arrows and the “Ha! Ha!” of the Joker™ can be placed at almost any desired angle and they provide the mansion with a look that is in accord with its main occupant.



Another interesting way to obtain an angle can be seen in the large Joker™ sign, which is one of the more interesting parts to build due to the techniques used to create the different letters. Initially I thought it would be fixed into its position in some way, but it turns out gravity does all the work. The left side of the build is heavier than the right side.

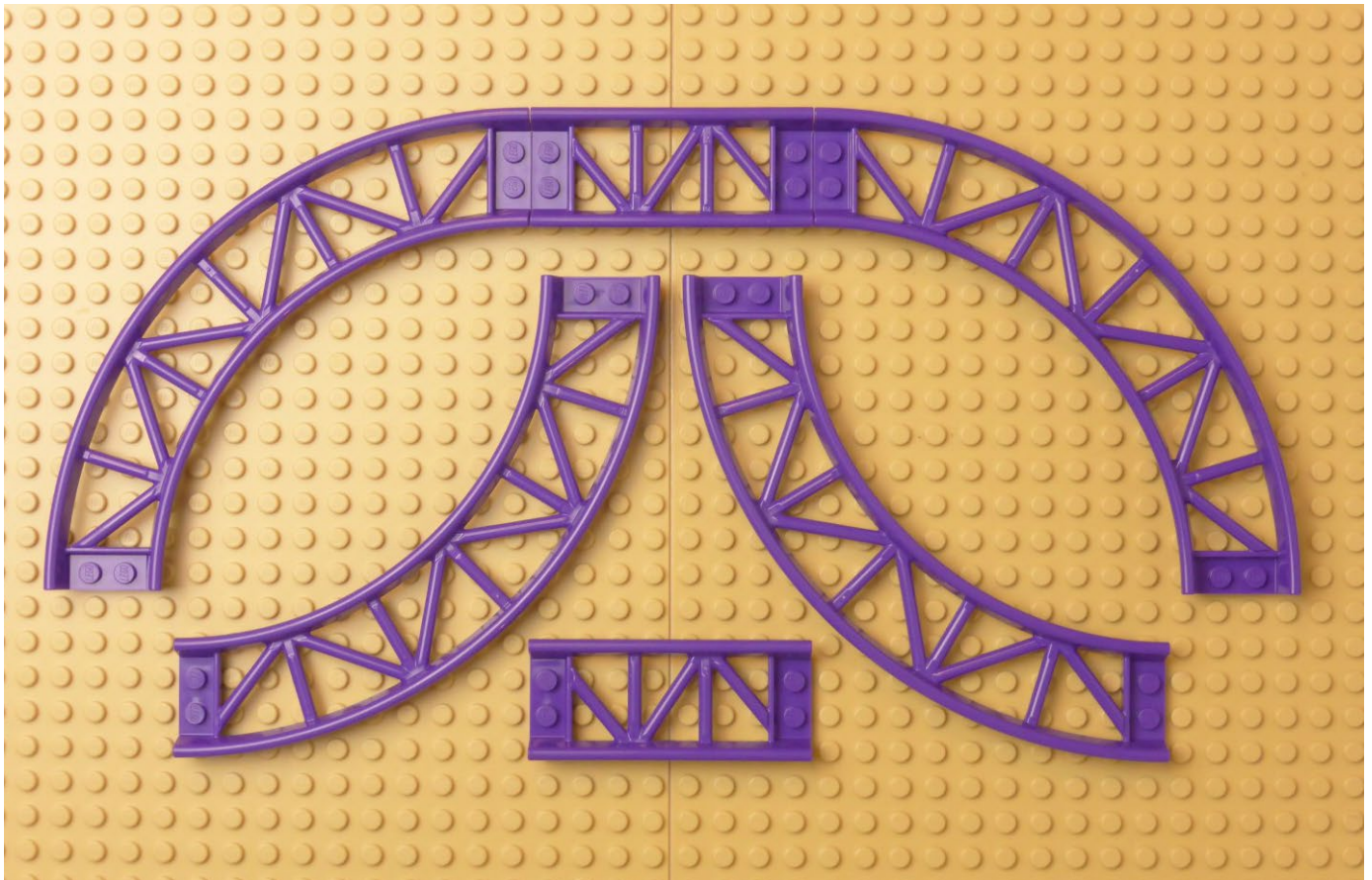
At this point it is time to bring in the “external consultants”. There’s nothing like having kids that put you up to speed about their favourite films, and fortunately the LEGO® Batman™ Movie is one of them. What already looked like a great set suddenly takes on a whole new dimension. There isn’t a detail in the house that isn’t in some way related to the movie. From the lobster thermidor in the microwave to the projection room where Batman™ retires.





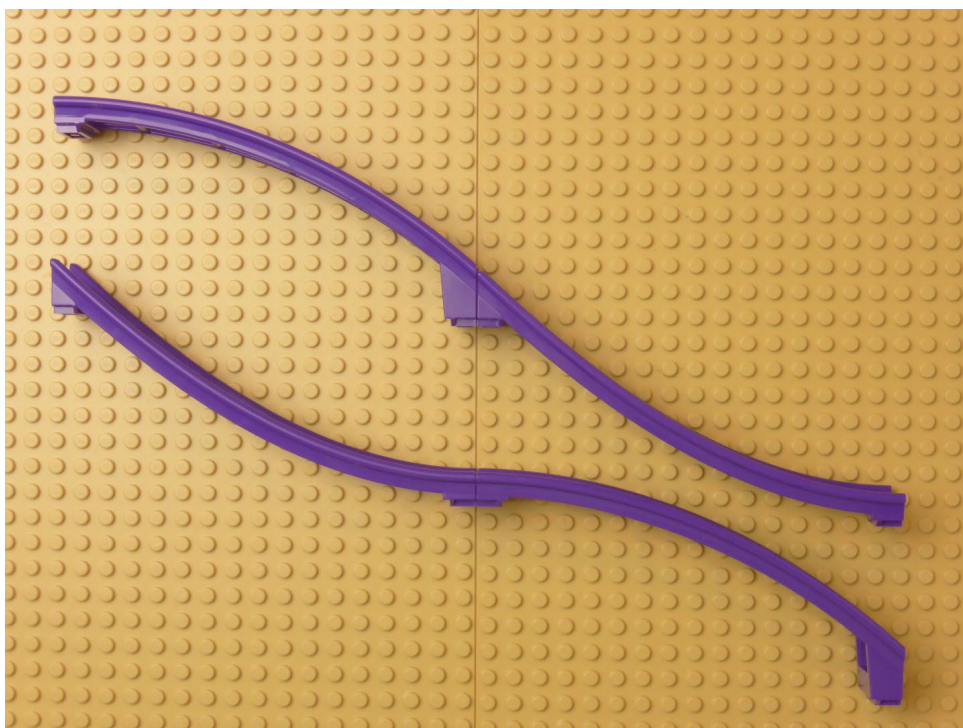
Each room tells part of the story of Batman™ and his invasive guest, the Joker™. The level of detail is excellent. But I don't want to give away too much of the movie (I have finally seen it) so let's get on with something else.

Let's get to the main attraction of this set: the rollercoaster. AFOLs have been looking for ways to build roller coasters for a long time, but up to now LEGO® had never produced a specific element for this purpose. The Friends fun fair made use of the narrow gauge tracks, but there is only one type of slope and curve. In this new set there are already four types of roller coaster tracks. First off, there are the flat elements. The set contains four curves and 2 straights. As you can see, the elements are connected with plates or tiles.





Then there are two types of (straight) slopes and there are also four of each. The first type connects directly to any of the previous elements on both sides. It is 16 studs long and slopes up (or down) 5 studs, creating a slight ondulation in the track. Then there are two slope elements that need to be used together that create a steeper incline.

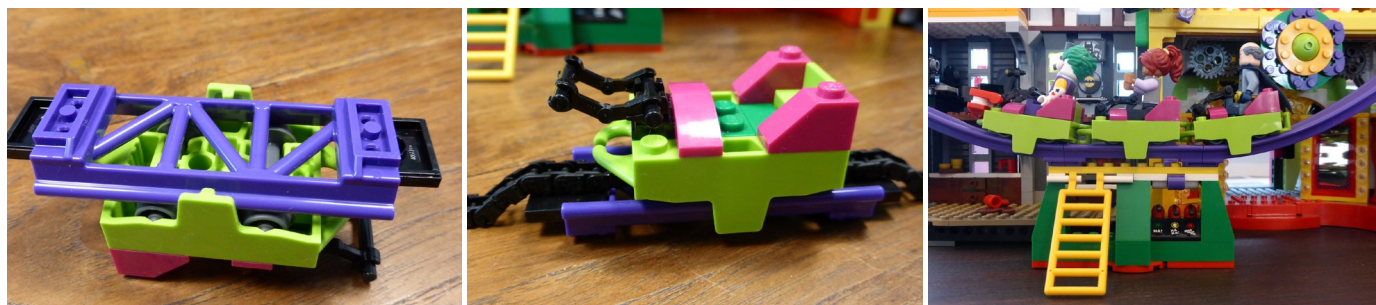


As you can see in the image, placed in the first manner they fit in perfectly with the rest of the track. However, as you can see in the bottom combination, placed the other way down they have an attack angle that is not compatible with the rest of the track elements - only with its counterpart from this set.

The wagons are the necessary complement to the track pieces, and they are also new in this set. The axles come placed in the wagons, but can be taken out with a little effort. The most interesting part of the wagon is almost hidden. In the centre of the wagon there is a pin that sticks out. Its use?



It allows you to use a Technic chain to pull the wagons! Get ready for a complete motorised rollercoaster set!



Another new element is the one used to create the mirrors. At first I had my misgivings about their use, but the stickers work well, provided you apply them with some care.





Speaking of stickers, taking into account the size of the set the 23 that are included (plus four for the stickers) are not that many, and each one of them serves a specific purpose, adding value to the set.

To sum up, I've had a lot of fun building this set. There are elements that are repeated, like the basic structure of the towers, but on the whole it is a fun build. The finished set is very inviting to play with. Especially playable is the rollercoaster, and best of all, it is relatively simple to motorise:

At our event last December (HispaBrick Magazine Event 2017) you could see one way to motorise the rollercoaster. The key to success is making sure there is enough slack in the system to allow the wagons to catch well on the chain. I expect to see many more and exciting roller coaster models in the following months as new track elements become available.



We would like to thank LEGO® for providing this set for review. However, LEGO® does not approve nor endorse the opinions we publish about their sets.

#



# Review: 70618 - Destiny's Bounty

*Text and images by lluisgib*

**Set:** Destiny's Bounty

**Set Number:** 70618

**Parts:** 2295

**Minifigures:** 7

**Recommended Price:** 169,99€ / \$159,99



*NOTE: This review does not contain spoilers*

The LEGO® NINJAGO Movie has offered some interesting sets. After analysing the NINJAGO City in the previous issue of HispaBrick Magazine, it is time to have a look at another

of the star sets in this series: The Destiny's Bounty. The ship reproduces one of the scenes in the movie – but as I said at the beginning of this review, I won't be revealing any details concerning the plot of the movie, so if you haven't seen it yet, you can read on.





The set includes seven minifigures – the six ninjas (Lloyd, Kai, Zane, Nya and Cole) and Master Wu. Only the minifigures for Cole and Master Wu are exclusive to this set. Of course, the decoration on these minifigures is exceptional, including their arms and legs. In addition, each character has its own weapon and comes with the new hood and mask in two parts.

As usual, the construction of the ship starts with the 'boring' part, i.e. the hull. There isn't much to tell in this first stage, which is made up of the bags numbered 1 and 2. They contain structures to allow the rest of the ship to be built on a solid and stable base.

With bag number three you start the construction of the decoration of the hold. It includes a room with a bed, a table and a family picture, a fun bathroom sink, a toilet with toilet paper, and an arsenal of weapons and armour of all kinds. As you can see in the pictures, the bed is designed in such a way that you can put a minifig inside and cover it with a blanket



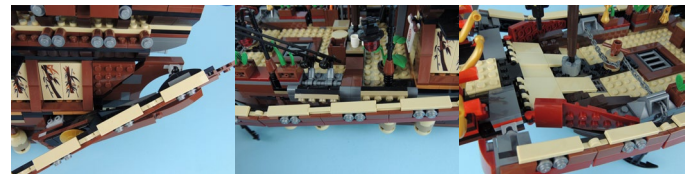
Bag four prepares the deck for the addition of elements that can be removed to get to the hold, as well as the structure for Master Wu's cabin. Most of this is 'infrastructure' and doesn't contain anything worth highlighting.

Up next (bag five) is completing the hull, adding parts for the front of the deck and a beam in the centre to add rigidity to the set. In addition, you add the anchors – one on either side – which are lowered and lifted together. You also add plates to the sides, using Technic connectors to enable mobility and add decoration on the sides, as well as the supporting bases for the deck lamps.

Bag six is where the model gets interesting. A platform is attached to the front of the build where the two dragon heads will go later on. This platform also serves as a walkway for the ship. You also add some gangways to allow access to the deck. These gangways can be folded, and there are some weapons hidden underneath in case the ninjas need them during an attack. The front deck is also added during this stage. It includes a trap door that allows some light to enter the hold, and some drawers for storage, as well as some plants.



Building stages seven and eight serve to build the decoration for the sides of the ship, including the railings that run from bow to stern and the 'spoilers' that serve as both aerodynamic and decorative elements. In the next images you can see the process of connecting the railings to the ship.



This is where you use the plates I described in stage five. The way the railings are connected is ingenious, but also fragile for clumsy hands. After placing the railings, you need to make some small adjustments to make them symmetrical. Finally, to finish off the decoration, two dragon heads are attached. These are made with red, dark red, gold and white bricks. They stand out against the more sober colours of the rest of the ship.



The rear deck is up next. This is where Master Wu's cabin is placed, which serves as a dojo (a training and meditation area). This space contains some weapons, wooden walls, a parchment with ninja teachings and a training doll. Although the cabin is small, each element has its own defined space, leaving room for a reasonably large central tatami for the characters to train on. On the outside there are stairs leading to the upper deck. At the back there are windows made with vertically placed modified panels

The upper deck is the command post of the ship. It includes the helm, maps and navigational instruments. But the most outstanding – and in my opinion most beautiful – part is the bamboo ceiling. This is made with tan-coloured Garage Roller Door sections without Handle. It's the first time this part has appeared in this colour, and it provides the oriental touch required for a Ninja-themed ship. This deck also has some flower pots with plants, some lamps in the bow section, some exhaust pipes I don't really understand, and a rear banner.







But what is a ship without sails? In this case there are three masts: one near the bow, one in the centre and one in the stern, on top of the bamboo ceiling. The front and centre masts have sails that outline a dragon. There are also some lamps and flags that are intertwined with the two masts giving the ship a festive look. The rear mast has a round shield.

The model is quite big, but robust. It is 45cm tall, 55cm long and 17cm wide. The ship is full of details and accessories which are either useful, like weapons and lamps, or purely

decorative, like the plants and banners. The colour scheme is sober, allowing little details to stand out, like the dragon heads and the bamboo deck. Another outstanding detail is how the set only contains all the 'good' minifigs. It is quite rare to find a set that only contains all the main characters in a theme, even if it is the second largest set in the theme.

We would like to thank LEGO® for providing this set for review. LEGO® does not approve or support the opinions we publish about their sets.

#



# Benny's Corner

*By Luigi Priori*

My name is Luigi Priori, I live in Cremona, a town in the north of Italy, and among AFOLs I'm known as Prioit70. I'm one of the seven founding members of Cremona Bricks, and I became its ambassador after it was recognized as a LUG by the LEGO® Group in 2014.

Photography has been my hobby since always. I've never taken any photo lessons. I am totally an autodidact. And I'm also a builder. In 2009 I came out of my Dark Age with the Winter Village Toy Shop. The next year, when the Winter Village Bakery came out, I started thinking of a winter diorama and faced the problem of photographing my creations, moving to much smaller subjects than my usual ones which were landscapes.

The real turning point for me came in 2014 – the LEGO® movie. And Benny the spaceman. At the same time, lo and behold, in my mom's attic I found a box full of bricks from my childhood, with some Classic Space pieces. To my great surprise, one of those was the 1x6x5 blue brick with a monitor showing a lifting-off rocket printed on (3754pb01). You could find it in the Beta I Command Base set (6970), definitely one of my all time favorites. And with that piece in my hands I thought that, after all, the spaceman on the monitor could have been a forefather of Benny's. This was the start of my 'Benny's adventures in space' series on Flickr. And now, after two and a half years, it contains 238 photos.

In my mind Benny became a spaceman, full of hope and longing to explore the universe with his spaceship, and ended up at Outpost Alpha, on a forgotten asteroid, leading a life not as exciting as he had imagined, but always with this smile on his face – and with his sidekick (and good friend, after all those years) Mr Robot. And since I am a builder, just after the first photos I started working on a real space station, which could fit a single baseplate and was detailed only on the inside (as the outside was not important for my purposes). This is where I set most of Benny's adventures, adding each time new characters and/or new elements. Speaking of new characters, one year ago I introduced professor Kelly Wedgensen, from ground control. She's a rocket scientist and comes from Earth. After a communications breakdown with Outpost Alpha, following the emergency procedures, she jumped on the first available spaceship and went to Benny's aid. And she realized that life in space is more exciting than on Earth, so she decided to stay with Benny at Outpost Alpha. They are the same age, but she has state-of-the-art technology and, most of all, she is a woman! So after her arrival Outpost Alpha would never be the same again.

I hope you enjoy the photos I've taken for HispaBrick Magazine. This is the first one and the title could be: 'This is the last one, I promise!' showing Benny busy playing old video games (with Mr. Robot supporting him), while Kelly tries to recall him to his duty as Outpost Alpha Commander.

#

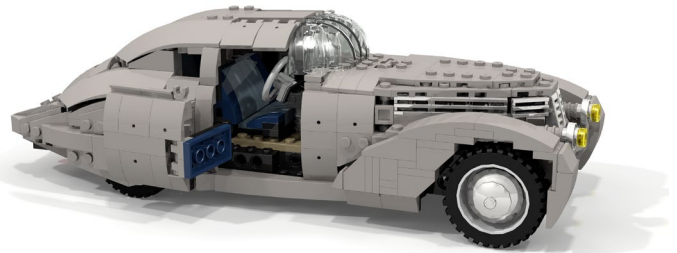






## LEGO® Digital

By HispaBrick Magazine®



Hispano-Suiza Xénia By Peter Blackert

Many LEGO® fans have heard words like LEGO® Digital Designer (LDD), MLCad, SR 3D Builder, POV-Ray™, LDraw, POV-Ray™ Converter...

For those who aren't sure what they are, they are Computer Aided Design programs, tools that allow fans to document their creations and make virtual LEGO® models on a computer.

Thanks to these, many fans who have limited physical space for certain creations or to store parts, or who simply don't have a large enough collection to build a MOC of a certain size, have the opportunity to create virtual MOCs and maybe build the physical model at some future time.

In previous issues of HispaBrick Magazine we have featured tutorials for these digital tools. In this issue, we will show you some example creations built with these programs that show how useful they can be.

#

### Minion Colonial Marine, November 2015

Autor: Carlos Méndez (car\_mp) - Spain

Programs: LDD for creating and LDD to POV-Ray™.

<https://www.flickr.com/photos/carmpp/>



**Emotions: Winter, December 2016**

Autor: Tamás Kovács (bigboy99899) - Hungary

Programs: LDD for creating, LDD to POV-Ray™ to converter and rendered with POV-Ray™.

<https://www.flickr.com/photos/bigboy99899/>



**LoR Heroes Guild, November 2014**

Autor: Chris Beckett (Becheman) - U.K.

Programs: LDD for creating, LDD to POV-Ray™ to converter and rendered with POV-Ray™.

<https://www.flickr.com/photos/37535413@N05/>





### Fort Henri, January 2017

Autor: Jens Fischer (Kolonialbeamter) - Germany  
Programs: LDD for the build and bluerender for the images.  
[www.flickr.com/people/117866292@N02/](http://www.flickr.com/people/117866292@N02/)



### Light Cruiser "Chimay", November 2017

Autor: lego Pilot - Belgium  
Programs: Mecabricks and Blender.  
<https://www.flickr.com/photos/legopilot/>



### 1953 Pegaso Z-102 'Thrill' Coupe, bodies by Touring, December 2017

Autor: Peter Blackert (lego911) - Australia

Programs: LDD for creating, LDD to POV-Ray™ to converter and rendered with POV-Ray™.

<https://www.flickr.com/photos/29987108@N02/>



### Dog D-Nine Bulldozer, January 2017

Autor: Benjamin Heining (The Driving Dutchman) - The Netherlands

Programs: LDD for creating, LDD to POV-Ray™ to converter and rendered with POV-Ray™.

<https://www.flickr.com/people/thedrivingdutchman/>





### Pinewood Forester, October 2013

Autor: Juhász Péter (YooHa9) - Hungary

Programs: LDD for creating, LDD to POV-Ray™ to converter and rendered with POV-Ray™.

<https://www.flickr.com/photos/67108346@N05/>



### LEGO® Moc Christmas Scene, December 2017

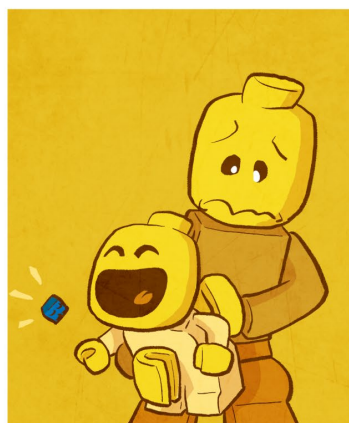
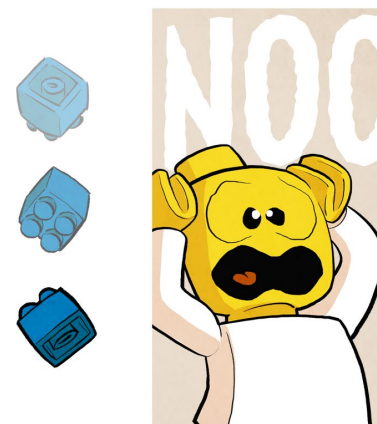
Autor: Björn Daniel Weissberg - Germany

Programs: LDD for creating, rendered with POV-Ray™ and edited with Adobe EA and Corel.

<https://www.flickr.com/photos/152191555@N04/>



# Desmontados by Arqu medes





# How to collaborate with us

Collaborating with HispaBrick Magazine® is very easy, just send an email with your ideas to [info@hispabrickmagazine.com](mailto:info@hispabrickmagazine.com) and we will help you to “build” your article.

If your native language is not Spanish or English, don't worry, we will find a solution. Contact us now!

You can also find us at Facebook: <http://www.facebook.com/hispabrickmagazine> and Twitter: [@H\\_B\\_Magazine](https://twitter.com/H_B_Magazine) #

## Our collaborators on the Internet

Adrian Barbour	<a href="http://www.bm-mocs.com">www.bm-mocs.com</a>
Alexander Allekseev	<a href="https://www.flickr.com/photos/28476480@N04/">https://www.flickr.com/photos/28476480@N04/</a>
Antonio Bellón (Legotron)	<a href="http://www.abellon.net/Panzerbricks/">http://www.abellon.net/Panzerbricks/</a>
Benjamin Heining (The Driving Dutchman)	<a href="https://www.flickr.com/people/thedrivingdutchman/">https://www.flickr.com/people/thedrivingdutchman/</a>
Björn Daniel Weissberg	<a href="https://www.flickr.com/photos/152191555@N04/">https://www.flickr.com/photos/152191555@N04/</a>
car_mp	<a href="https://www.flickr.com/photos/carpmp/">https://www.flickr.com/photos/carpmp/</a>
Chris Beckett (Becheman)	<a href="https://www.flickr.com/photos/37535413@N05/">https://www.flickr.com/photos/37535413@N05/</a>
Donát Rááb	<a href="http://www.brickshelf.com/cgi-bin/gallery.cgi?m=AshValkoinen">http://www.brickshelf.com/cgi-bin/gallery.cgi?m=AshValkoinen</a>
Eduard Petrac	<a href="http://www.kockice.hr">www.kockice.hr</a>
Iva Pavlic	<a href="http://www.kockice.hr">www.kockice.hr</a>
Janos Roemer	<a href="http://www.kockice.hr">www.kockice.hr</a>
Jasna Miklin	<a href="http://www.kockice.hr">www.kockice.hr</a>
Jens Fischer (Kolonialbeamter)	<a href="https://www.flickr.com/people/117866292@N02/">https://www.flickr.com/people/117866292@N02/</a>
Jesús Delgado (Arqu medes)	<a href="http://debiologoadibujante.blogspot.com/">http://debiologoadibujante.blogspot.com/</a>
Jetro de Château (Jetro)	<a href="http://www.brickshelf.com/cgi-bin/gallery.cgi?m=Jetro de Château">http://www.brickshelf.com/cgi-bin/gallery.cgi?m=Jetro de Château</a>
José (Satanspoet)	<a href="http://www.brickshelf.com/cgi-bin/gallery.cgi?m=satanspoet">http://www.brickshelf.com/cgi-bin/gallery.cgi?m=satanspoet</a>
Juhász Péter (Yooha9)	<a href="https://www.flickr.com/photos/67108346@N05/">https://www.flickr.com/photos/67108346@N05/</a>
Lego Pilot	<a href="https://www.flickr.com/photos/legopilot/">https://www.flickr.com/photos/legopilot/</a>
Lionel Gevaert	<a href="https://www.facebook.com/BrickBE/">https://www.facebook.com/BrickBE/</a>
Lluís Gibert (lluigib)	<a href="http://www.brickshelf.com/cgi-bin/gallery.cgi?m=lluigib">http://www.brickshelf.com/cgi-bin/gallery.cgi?m=lluigib</a>
Ludo Soete	<a href="http://www.brickshelf.com/cgi-bin/gallery.cgi?m=ludo-soete">http://www.brickshelf.com/cgi-bin/gallery.cgi?m=ludo-soete</a>
Luigi Priori	<a href="https://www.flickr.com/photos/priovit70/albums">https://www.flickr.com/photos/priovit70/albums</a>
Martin Redfern	<a href="https://www.flickr.com/photos/153791817@N06/">https://www.flickr.com/photos/153791817@N06/</a>
Oton Ribic	<a href="http://www.kockice.hr">www.kockice.hr</a>
Peter Blackert (lego911)	<a href="https://www.flickr.com/photos/29987108@N02/">https://www.flickr.com/photos/29987108@N02/</a>
Richard Jones	<a href="http://ramblingbrick.com">ramblingbrick.com</a>
Seshan Brothers	<a href="http://EV3Lessons.com">EV3Lessons.com</a>
Sigpro	<a href="https://www.flickr.com/photos/28966137@N03/">https://www.flickr.com/photos/28966137@N03/</a>
Stephan Matthies	<a href="http://stuckinplastic.com">stuckinplastic.com</a>
Sven Franic	<a href="http://www.kockice.hr">www.kockice.hr</a>
Tamás Kovács (bigboy99899)	<a href="https://www.flickr.com/photos/bigboy99899/">https://www.flickr.com/photos/bigboy99899/</a>



# 029

Free download from [www.hispabrickmagazine.com](http://www.hispabrickmagazine.com)  
You can buy printed issues only at [www.bubok.com](http://www.bubok.com)  
You will pay only the printing and shipping costs



ISSN 1989-0982



9 771989 098005 >

